


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☒**APPLICATION FOR PERMIT TO DRILL**

<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>1. WELL NAME and NUMBER</b> BONANZA 1023-2G2CS		
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES		
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b>		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>7. OPERATOR PHONE</b> 720 929-6587		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> ML 47062		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com		
<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>				<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>		
<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>				<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>		
<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>				<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>		
<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>				<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	1230 FNL 1962 FEL	NWNE	2	10.0 S	23.0 E	S
<b>Top of Uppermost Producing Zone</b>	1865 FNL 2395 FEL	SWNE	2	10.0 S	23.0 E	S
<b>At Total Depth</b>	1865 FNL 2395 FEL	SWNE	2	10.0 S	23.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1865		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 20		
<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 360		<b>26. PROPOSED DEPTH</b> MD: 8159 TVD: 8000		<b>27. ELEVATION - GROUND LEVEL</b> 5444		
<b>28. BOND NUMBER</b> 22013542		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496				

**ATTACHMENTS****VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP
<b>NAME</b> Kathy Schneebeck-Dulnoan	<b>TITLE</b> Staff Regulatory Analyst
<b>SIGNATURE</b>	<b>PHONE</b> 720 929-6007
<b>API NUMBER ASSIGNED</b> 43047503460000	<b>DATE</b> 04/30/2009
<b>APPROVAL</b>	<b>EMAIL</b> Kathy.SchneebeckDulnoan@anadarko.com
 Permit Manager	



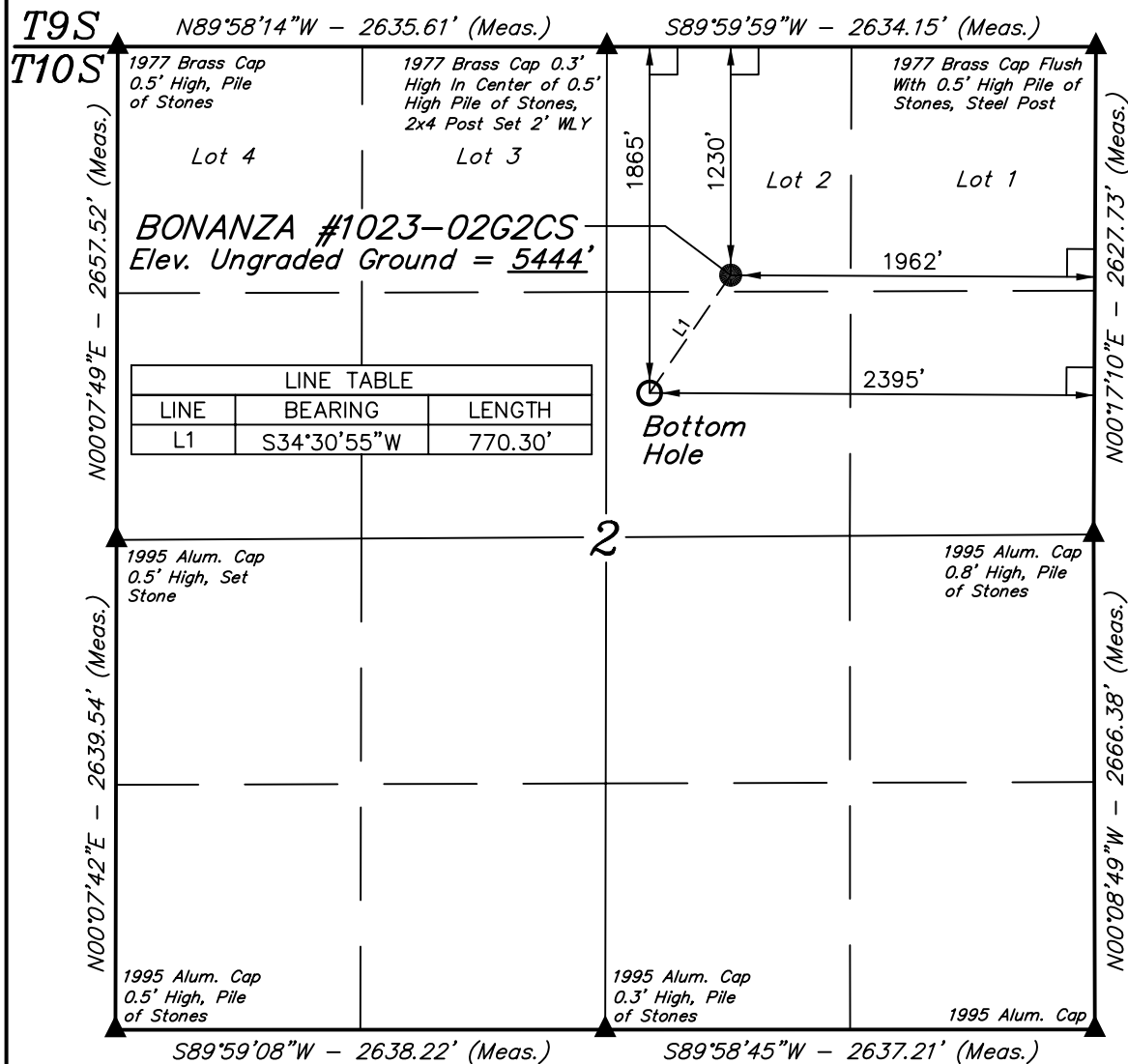
Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	8159		
Pipe	Grade	Length	Weight			
	Grade I-80 LT&C	8159	11.6			



Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2200		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2200	36.0			



T10S, R23E, S.L.B.&M.



LEGEND:

- └─┘ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 39°58'48.31" (39.980086)	LATITUDE = 39°58'54.58" (39.981828)
LONGITUDE = 109°17'36.20" (109.293389)	LONGITUDE = 109°17'30.58" (109.291828)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)
LATITUDE = 39°58'48.43" (39.980119)	LATITUDE = 39°58'54.70" (39.981861)
LONGITUDE = 109°17'33.77" (109.292714)	LONGITUDE = 109°17'28.15" (109.291153)

Kerr-McGee Oil & Gas Onshore LP

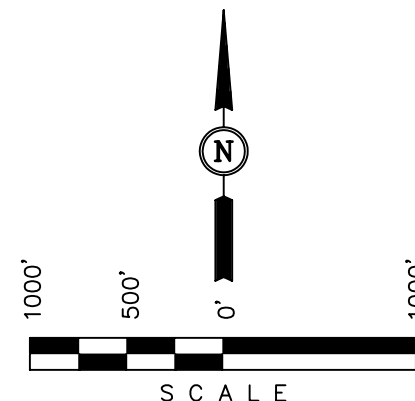
Well location, BONANZA #1023-02G2CS, located as shown in LOT 2 of Section 2, T10S, R23E, S.L.B.&M., Uintah County, Utah.

BASIS OF ELEVATION

BENCH MARK 58 EAM (1965) LOCATED IN THE NE 1/4 OF SECTION 30, T9S, R23E, S.L.B.&M. TAKEN FROM THE RED WASH SE, QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5132 FEET.

BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
REGISTRATION NO. 161319  
STATE OF UTAH

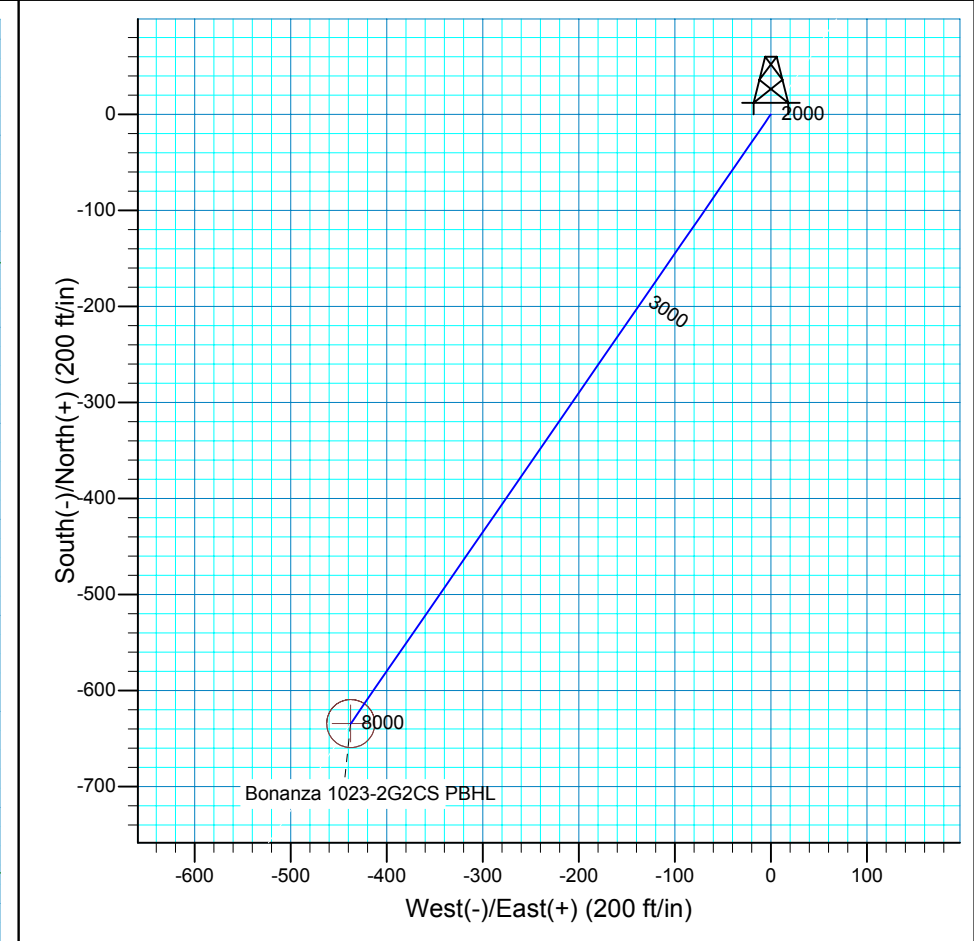
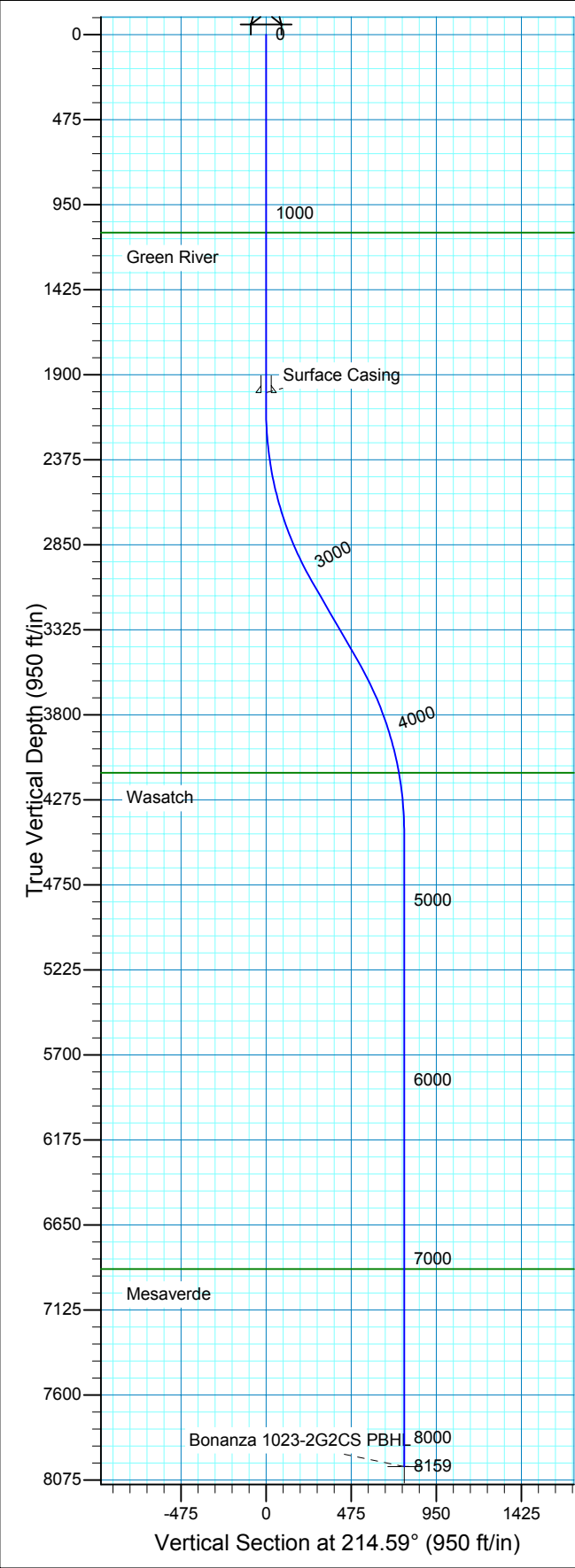
UINTAH ENGINEERING & LAND SURVEYING  
85 SOUTH 200 EAST - VERNAL, UTAH 84078  
(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 10-15-08	DATE DRAWN: 10-30-08
PARTY D.K. D.D. C.C.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE Kerr-McGee Oil & Gas Onshore LP	

APIWellNo:43047503460000



WELL DETAILS: Bonanza 1023-2G2CS					
GL 5442' & RKB 18' @ 5460.00ft 5442.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	608081.78	2618898.98	39° 58' 54.700 N	109° 17' 28.150 W



Plan: Plan #1 (Bonanza 1023-2G2CS/OH)	
Created By: Julie Cruse	Date: 2008-12-04
PROJECT DETAILS: Uintah County, UT NAD27	
Geodetic System: US State Plane 1927 (Exact solution)	
Datum: NAD 1927 (NADCON CONUS)	
Ellipsoid: Clarke 1866	
Zone: Utah Central 4302	
Location: Sec 2 T10S R23E	
System Datum: Mean Sea Level	
Local North: True	

SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	0.00		
3100.00	30.00	214.59	3054.93	-210.64	-145.26	3.00	214.59	255.87		
3617.68	30.00	214.59	3503.26	-423.73	-292.20	0.00	0.00	514.71		
4617.68	0.00	0.00	4458.18	-634.37	-437.46	3.00	180.00	770.59		
8159.50	0.00	0.00	8000.00	-634.37	-437.46	0.00	0.00	770.59	Bonanza 1023-2G2CS PBHL	





**Scientific Drilling**  
Rocky Mountain Operations

# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT NAD27  
Bonanza 1023-2B Pad  
Bonanza 1023-2G2CS  
OH**

**Plan: Plan #1**

## **Standard Planning Report**

**04 December, 2008**



# Scientific Drilling

## Planning Report



<b>Database:</b>	EDM 2003.16 Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Bonanza 1023-2G2CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5442' & RKB 18' @ 5460.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5442' & RKB 18' @ 5460.00ft
<b>Site:</b>	Bonanza 1023-2B Pad	<b>North Reference:</b>	True
<b>Well:</b>	Bonanza 1023-2G2CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

<b>Project</b>	Uintah County, UT NAD27		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Utah Central 4302		

Site	Bonanza 1023-2B Pad, Sec 2 T10S R23E				
Site Position:		Northing:	608,081.79 ft	Latitude:	39° 58' 54.700 N
From:	Lat/Long	Easting:	2,618,898.98 ft	Longitude:	109° 17' 28.150 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	1.41 °

Well	Bonanza 1023-2G2CS, 1230' FNL 1962' FEL					
Well Position	+N/-S	0.00 ft	Northing:	608,081.78 ft	Latitude:	39° 58' 54.700 N
	+E/-W	0.00 ft	Easting:	2,618,898.98 ft	Longitude:	109° 17' 28.150 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,442.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
			(°)	(°)	(nT)
	IGRF2005-10	2008-12-04	11.29	65.97	52,621

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	214.59

<b>Plan Sections</b>										
<b>Measured</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg</b>	<b>Build</b>	<b>Turn</b>	<b>TFO</b>	<b>Target</b>
<b>Depth</b>	(°)	(°)	<b>Depth</b>	<b>(ft)</b>	<b>(ft)</b>	<b>Rate</b>	<b>Rate</b>	<b>Rate</b>	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,100.00	30.00	214.59	3,054.93	-210.64	-145.26	3.00	3.00	0.00	214.59	
3,617.68	30.00	214.59	3,503.26	-423.73	-292.20	0.00	0.00	0.00	0.00	
4,617.68	0.00	0.00	4,458.18	-634.37	-437.46	3.00	-3.00	0.00	180.00	
8,159.50	0.00	0.00	8,000.00	-634.37	-437.46	0.00	0.00	0.00	0.00	Bonanza 1023-2G2CS





## Scientific Drilling

### Planning Report

<b>Database:</b>	EDM 2003.16 Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Bonanza 1023-2G2CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5442' & RKB 18' @ 5460.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5442' & RKB 18' @ 5460.00ft
<b>Site:</b>	Bonanza 1023-2B Pad	<b>North Reference:</b>	True
<b>Well:</b>	Bonanza 1023-2G2CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,106.00	0.00	0.00	1,106.00	0.00	0.00	0.00	0.00	0.00	0.00
Green River									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing									
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	3.00	214.59	2,199.95	-2.15	-1.49	2.62	3.00	3.00	0.00
2,300.00	6.00	214.59	2,299.63	-8.61	-5.94	10.46	3.00	3.00	0.00
2,400.00	9.00	214.59	2,398.77	-19.36	-13.35	23.51	3.00	3.00	0.00
2,500.00	12.00	214.59	2,497.08	-34.36	-23.69	41.74	3.00	3.00	0.00
2,600.00	15.00	214.59	2,594.31	-53.57	-36.94	65.08	3.00	3.00	0.00
2,700.00	18.00	214.59	2,690.18	-76.95	-53.07	93.48	3.00	3.00	0.00
2,800.00	21.00	214.59	2,784.43	-104.43	-72.01	126.85	3.00	3.00	0.00
2,900.00	24.00	214.59	2,876.81	-135.93	-93.74	165.12	3.00	3.00	0.00
3,000.00	27.00	214.59	2,967.06	-171.37	-118.17	208.16	3.00	3.00	0.00
3,100.00	30.00	214.59	3,054.93	-210.64	-145.26	255.87	3.00	3.00	0.00
3,200.00	30.00	214.59	3,141.53	-251.81	-173.64	305.87	0.00	0.00	0.00
3,300.00	30.00	214.59	3,228.13	-292.97	-202.03	355.87	0.00	0.00	0.00
3,400.00	30.00	214.59	3,314.74	-334.13	-230.41	405.87	0.00	0.00	0.00
3,500.00	30.00	214.59	3,401.34	-375.29	-258.80	455.87	0.00	0.00	0.00
3,600.00	30.00	214.59	3,487.94	-416.45	-287.18	505.87	0.00	0.00	0.00
3,617.68	30.00	214.59	3,503.26	-423.73	-292.20	514.71	0.00	0.00	0.00
3,700.00	27.53	214.59	3,575.41	-456.34	-314.69	554.32	3.00	-3.00	0.00
3,800.00	24.53	214.59	3,665.26	-492.46	-339.60	598.20	3.00	-3.00	0.00
3,900.00	21.53	214.59	3,757.27	-524.67	-361.81	637.32	3.00	-3.00	0.00
4,000.00	18.53	214.59	3,851.22	-552.86	-381.25	671.57	3.00	-3.00	0.00
4,100.00	15.53	214.59	3,946.82	-576.97	-397.87	700.85	3.00	-3.00	0.00
4,200.00	12.53	214.59	4,043.82	-596.92	-411.64	725.09	3.00	-3.00	0.00
4,281.77	10.08	214.59	4,124.00	-610.12	-420.73	741.12	3.00	-3.00	0.00
Wasatch									
4,300.00	9.53	214.59	4,141.97	-612.67	-422.50	744.23	3.00	-3.00	0.00
4,400.00	6.53	214.59	4,240.97	-624.17	-430.43	758.19	3.00	-3.00	0.00
4,500.00	3.53	214.59	4,340.58	-631.39	-435.40	766.96	3.00	-3.00	0.00
4,600.00	0.53	214.59	4,440.50	-634.31	-437.42	770.50	3.00	-3.00	0.00



# Scientific Drilling

## Planning Report



<b>Database:</b>	EDM 2003.16 Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Bonanza 1023-2G2CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5442' & RKB 18' @ 5460.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5442' & RKB 18' @ 5460.00ft
<b>Site:</b>	Bonanza 1023-2B Pad	<b>North Reference:</b>	True
<b>Well:</b>	Bonanza 1023-2G2CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,617.68	0.00	0.00	4,458.18	-634.37	-437.46	770.59	3.00	-3.00	0.00
4,700.00	0.00	0.00	4,540.50	-634.37	-437.46	770.59	0.00	0.00	0.00
4,800.00	0.00	0.00	4,640.50	-634.37	-437.46	770.59	0.00	0.00	0.00
4,900.00	0.00	0.00	4,740.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,000.00	0.00	0.00	4,840.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,100.00	0.00	0.00	4,940.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,200.00	0.00	0.00	5,040.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,300.00	0.00	0.00	5,140.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,400.00	0.00	0.00	5,240.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,500.00	0.00	0.00	5,340.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,600.00	0.00	0.00	5,440.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,700.00	0.00	0.00	5,540.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,800.00	0.00	0.00	5,640.50	-634.37	-437.46	770.59	0.00	0.00	0.00
5,900.00	0.00	0.00	5,740.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,000.00	0.00	0.00	5,840.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,100.00	0.00	0.00	5,940.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,200.00	0.00	0.00	6,040.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,300.00	0.00	0.00	6,140.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,400.00	0.00	0.00	6,240.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,500.00	0.00	0.00	6,340.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,600.00	0.00	0.00	6,440.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,700.00	0.00	0.00	6,540.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,800.00	0.00	0.00	6,640.50	-634.37	-437.46	770.59	0.00	0.00	0.00
6,900.00	0.00	0.00	6,740.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,000.00	0.00	0.00	6,840.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,055.50	0.00	0.00	6,896.00	-634.37	-437.46	770.59	0.00	0.00	0.00
<b>Mesaverde</b>									
7,100.00	0.00	0.00	6,940.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,200.00	0.00	0.00	7,040.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,300.00	0.00	0.00	7,140.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,400.00	0.00	0.00	7,240.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,500.00	0.00	0.00	7,340.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,600.00	0.00	0.00	7,440.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,700.00	0.00	0.00	7,540.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,800.00	0.00	0.00	7,640.50	-634.37	-437.46	770.59	0.00	0.00	0.00
7,900.00	0.00	0.00	7,740.50	-634.37	-437.46	770.59	0.00	0.00	0.00
8,000.00	0.00	0.00	7,840.50	-634.37	-437.46	770.59	0.00	0.00	0.00
8,100.00	0.00	0.00	7,940.50	-634.37	-437.46	770.59	0.00	0.00	0.00
8,159.50	0.00	0.00	8,000.00	-634.37	-437.46	770.59	0.00	0.00	0.00

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Bonanza 1023-2G2CS F	0.00	0.00	8,000.00	-634.37	-437.46	607,436.80	2,618,477.32	39° 58' 48.430 N	109° 17' 33.770 W
- plan hits target center									
- Circle (radius 25.00)									





## Scientific Drilling

### Planning Report

<b>Database:</b>	EDM 2003.16 Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Bonanza 1023-2G2CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5442' & RKB 18' @ 5460.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5442' & RKB 18' @ 5460.00ft
<b>Site:</b>	Bonanza 1023-2B Pad	<b>North Reference:</b>	True
<b>Well:</b>	Bonanza 1023-2G2CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

Casing Points					
	Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
	2,000.00	2,000.00	Surface Casing	9.625	13.500

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,106.00	1,106.00	Green River		0.00	
	4,281.77	4,124.00	Wasatch		0.00	
	7,055.50	6,896.00	Mesaverde		0.00	



**Bonanza 1023-2G2CS**

Pad: Bonanza 1023-2B

Surface: 1,230' FNL, 1,962' FEL (NW/4NE/4) Lot 2

BHL: 1,865' FNL 2,395' FEL (SW/4NE/4)

Sec. 2 T10S R23E

Uintah, Utah

Mineral Lease: ML 47062

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

1. – 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,106'	
Birds Nest	1,498'	Water
Mahogany	1,999'	Water
Wasatch	4,124'	Gas
Mesaverde	5,945'	Gas
MVU2	6,896'	Gas
MVL1	7,436'	Gas
TVD	8,000'	
TD	8,159'	

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program.*

7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 8,159' MD, approximately equals 4,660 psi (calculated at 0.57 psi/foot).



Maximum anticipated surface pressure equals approximately 2,809 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*



*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*



*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

**10. Other Information:**

*Please refer to the attached Drilling Program.*



COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	April 12, 2009		
WELL NAME	<b>Bonanza 1023-2G2CS</b>					TD	8,000'	TVD	8,159' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	ELEVATION	5,444' GL	KB 5,459'
SURFACE LOCATION	NW/4 NE/4	1,230' FNL	1,962' FEL	Sec 2	T 10S	R 23E	Lot 2		
	Latitude:	39.981861	Longitude:	-109.291153			NAD 27		
BTM HOLE LOCATION	SW/4 NE/4	1,865' FNL	2,395' FEL	Sec 2	T 10S	R 23E			
	Latitude:	39.980119	Longitude:	-109.292714			NAD 27		
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: SITLA (Minerals), UDOGM (Surface), Tri-County Health Dept.								

Bonanza 1023-2G2CS Drilling Diagram.xls





# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3520	2020	453000
SURFACE	9-5/8"	0 to 2200	36.00	J-55	LTC	1.13	1.96	7.28
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 8159	11.60	I-80	LTC	2.49	1.29	2.43

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 11.6 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 2,975 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 11.6 ppg)

0.59 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 4,829 psi**

### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500	Premium cmt + 2% CaCl	215	60%	15.60	1.18
			+ .25 pps flocele				
Option 1	TOP OUT CMT (1)	200	20 gals sodium silicate + Premium cmt	50		15.60	1.18
			+ 2% CaCl + .25 pps flocele				
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
SURFACE			<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>				
Option 2	LEAD	1500	65/35 Poz + 6% Gel + 10 pps gilsonite	360	35%	12.60	1.81
			+ .25 pps Flocele + 3% salt BWOW				
	TAIL	500	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ .25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	3,619'	Premium Lite II + 3% KCl + 0.25 pps	350	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	4,540'	50/50 Poz/G + 10% salt + 2% gel	1110	40%	14.30	1.31
			+ .1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Grant Schluender

DATE:

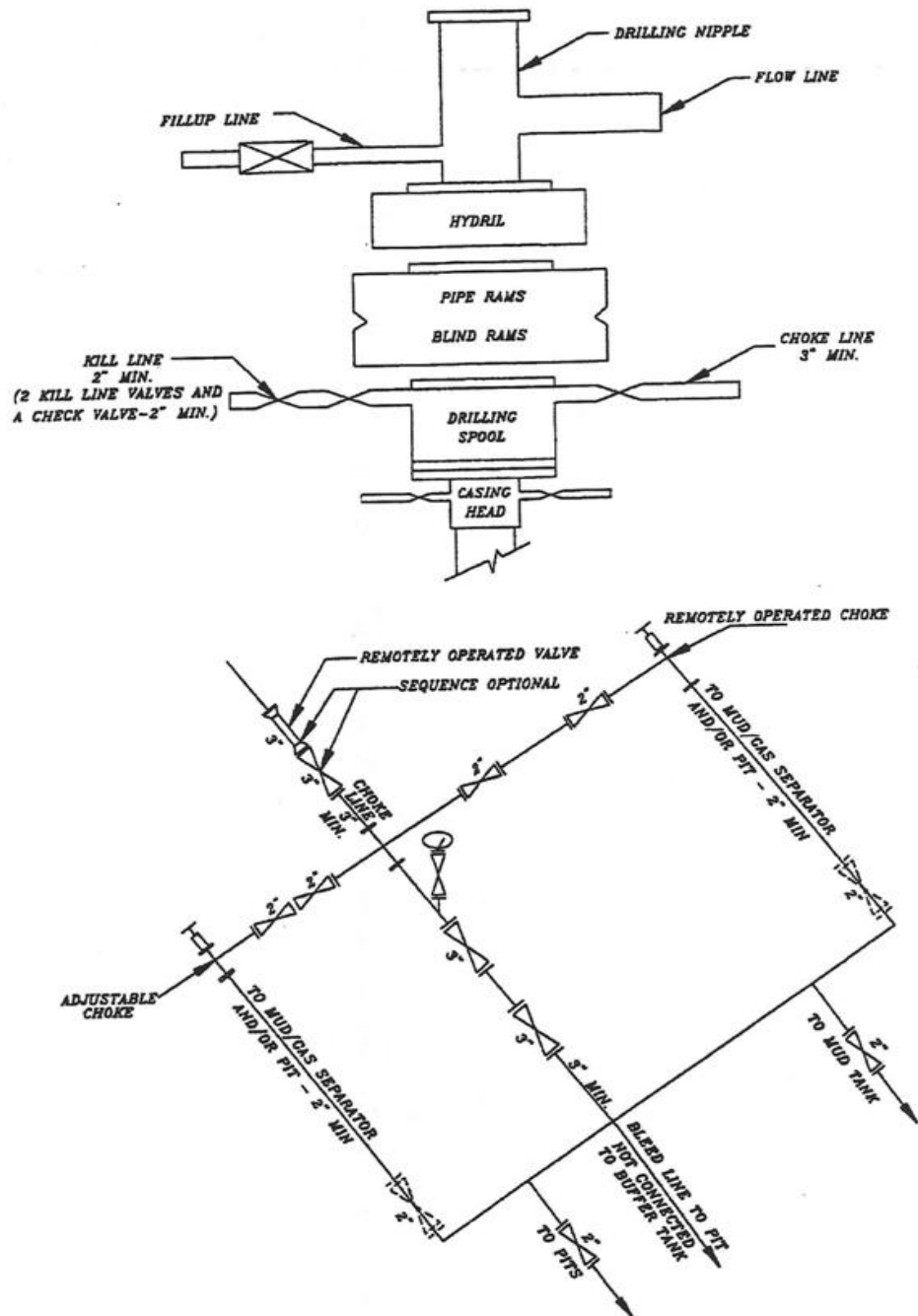
DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:



**EXHIBIT A**  
**Bonanza 1023-2G2CS**



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**



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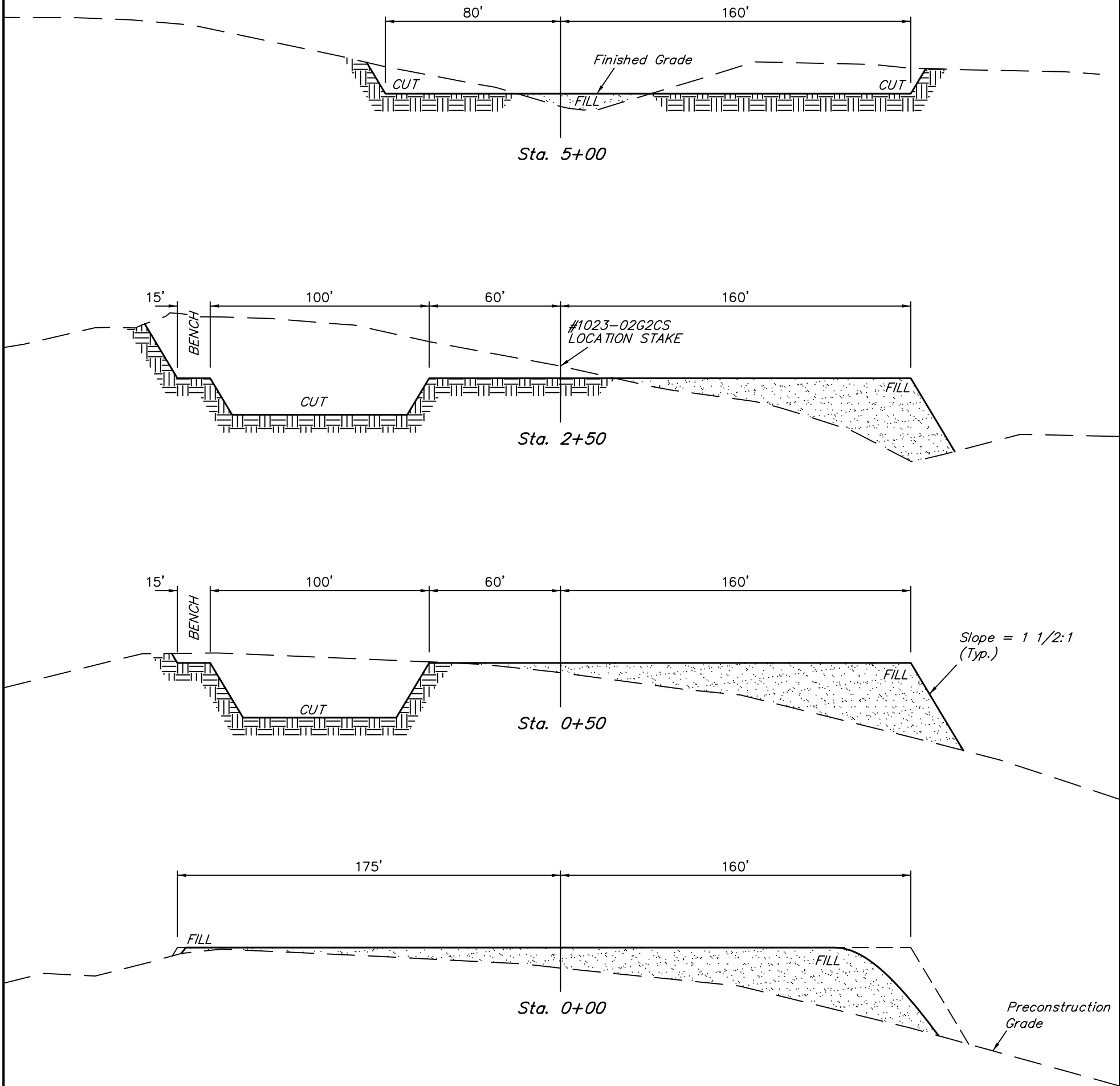
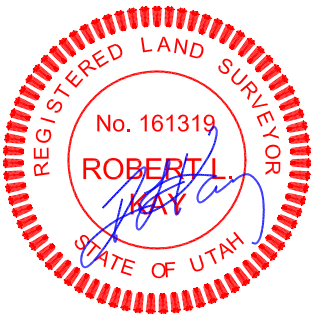
Kerr-McGee Oil & Gas Onshore LP

FIGURE #2

TYPICAL CROSS SECTIONS FOR

BONANZA #1023-02G2CS, #1023-02G3BS, #1023-02G1BS & #1023-02H3CS  
SECTION 2, T10S, R23E, S.L.B.&M.  
LOT 2

1" = 20'  
X-Section  
Scale  
1" = 50'  
DATE: 10-30-08  
Drawn By: C.C.



NOTE:

Topsoil should not be Stripped Below Finished Grade on Substructure Area.

APPROXIMATE ACREAGES

WELL SITE DISTURBANCE = ±4.517 ACRES  
ACCESS ROAD DISTURBANCE = ±0.079 ACRES  
PIPELINE DISTURBANCE = ±0.133 ACRES  
TOTAL = ±4.729 ACRES

\* NOTE:  
FILL QUANTITY INCLUDES 5% FOR COMPACTION

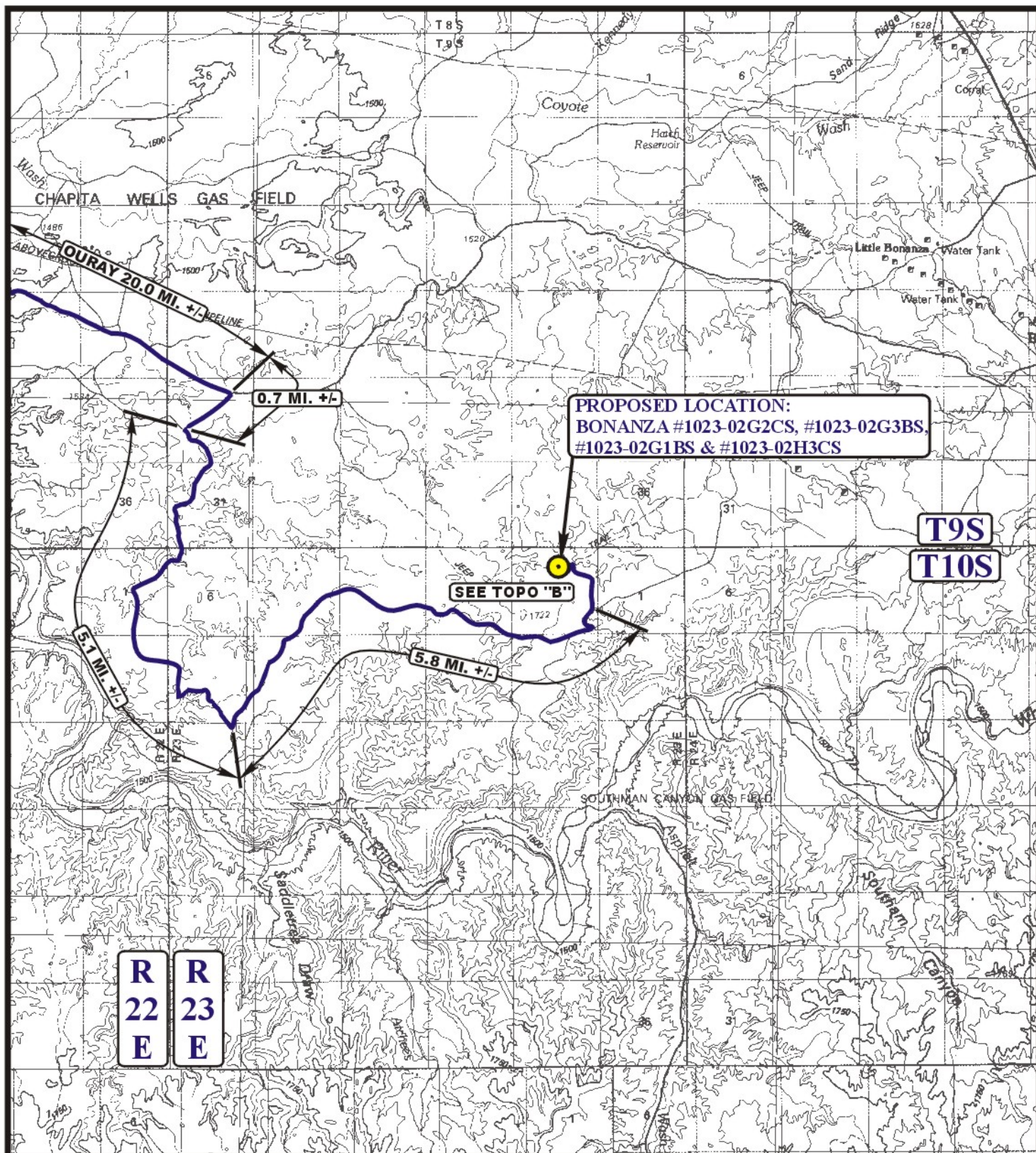
APPROXIMATE YARDAGES

(6") Topsoil Stripping = 3,390 Cu. Yds.  
Remaining Location = 24,920 Cu. Yds.  
TOTAL CUT = 28,310 CU.YDS.  
FILL = 17,980 CU.YDS.

EXCESS MATERIAL = 10,330 Cu. Yds.  
Topsoil & Pit Backfill = 8,290 Cu. Yds.  
(1/2 Pit Vol.)  
EXCESS UNBALANCE = 2,040 Cu. Yds.  
(After Interim Rehabilitation)

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**LEGEND:**

● PROPOSED LOCATION

**Kerr-McGee Oil & Gas Onshore LP**

BONANZA #1023-02G2CS, #1023-02G3BS,  
#1023-02G1BS & #1023-02H3CS  
SECTION 2, T10S, R23E, S.L.B.&M.  
LOT 2



**Uintah Engineering & Land Surveying**  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813



**TOPOGRAPHIC  
MAP**

**10 28 08**  
MONTH DAY YEAR

SCALE: 1:100,000 DRAWN BY: J.H. REVISED: 00-00-00





 EXISTING ROAD  
 PROPOSED ACCESS ROAD



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**85 South 200 East Vernal, Utah 84078**  
**(435) 789-1017 \* FAX (435) 789-1813**



## Kerr-McGee Oil &amp; Gas Onshore LP

**BONANZA #1023-02G2CS, #1023-02G3BS,  
#1023-02G1BS & #1023-02H3CS  
SECTION 2, T10S, R23E, S.L.B.&M.  
LOT 2**

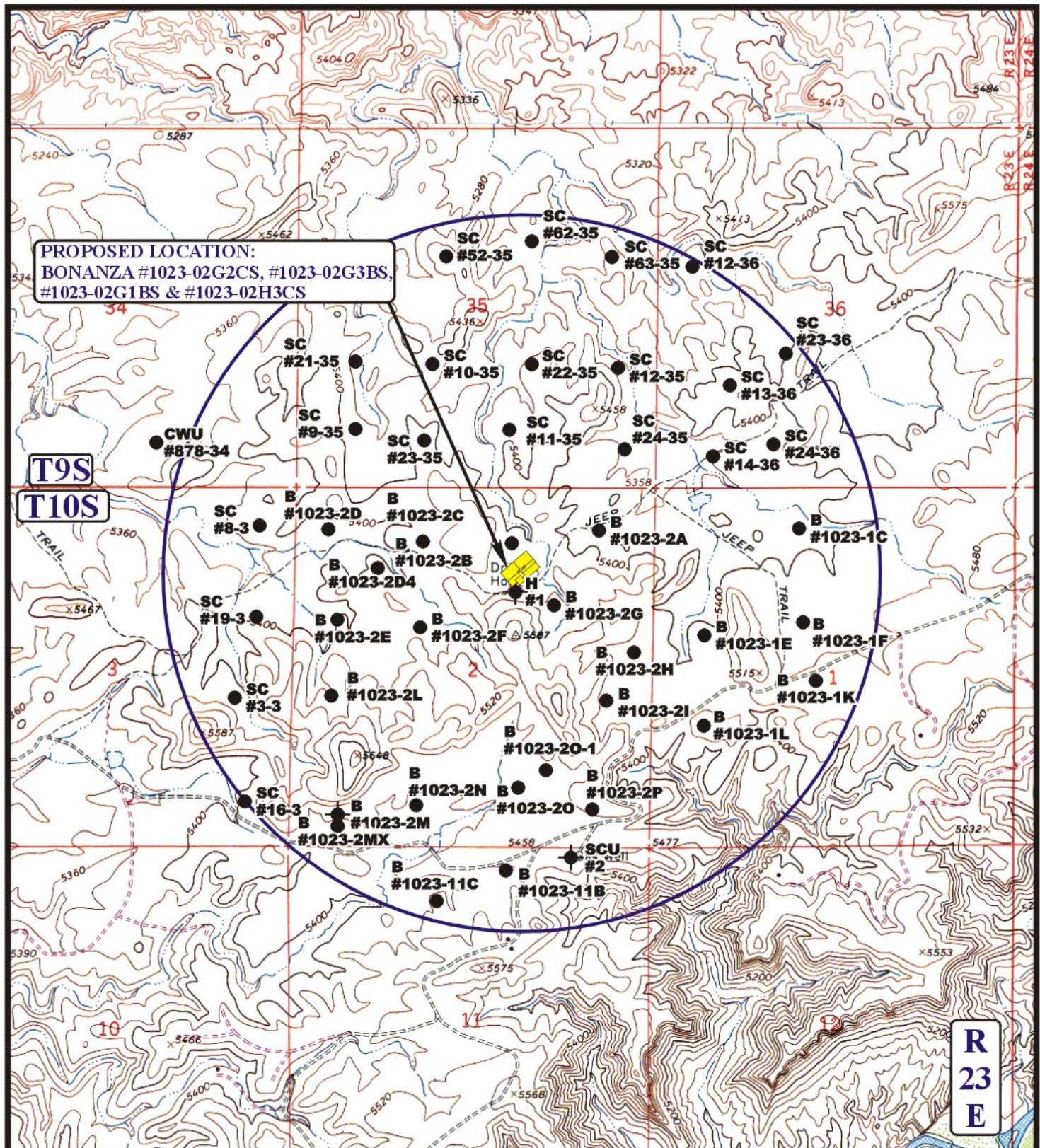
# TOPOGRAPHIC MAP

10 28 08  
MONTH DAY YEAR

SCALE: 1" = 2000'	DRAWN BY: J.H.	REVISED: 00-00-00
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**B**  
**TOPO**





**LEGEND:**

- |                   |                         |
|-------------------|-------------------------|
| ○ DISPOSAL WELLS  | ○ WATER WELLS           |
| ● PRODUCING WELLS | ● ABANDONED WELLS       |
| ● SHUT IN WELLS   | ● TEMPORARILY ABANDONED |

**Kerr-McGee Oil & Gas Onshore LP**

BONANZA #1023-02G2CS, #1023-02G3BS,  
 #1023-02G1BS & #1023-02H3CS  
 SECTION 2, T10S, R23E, S.L.B.&M.  
 LOT 2



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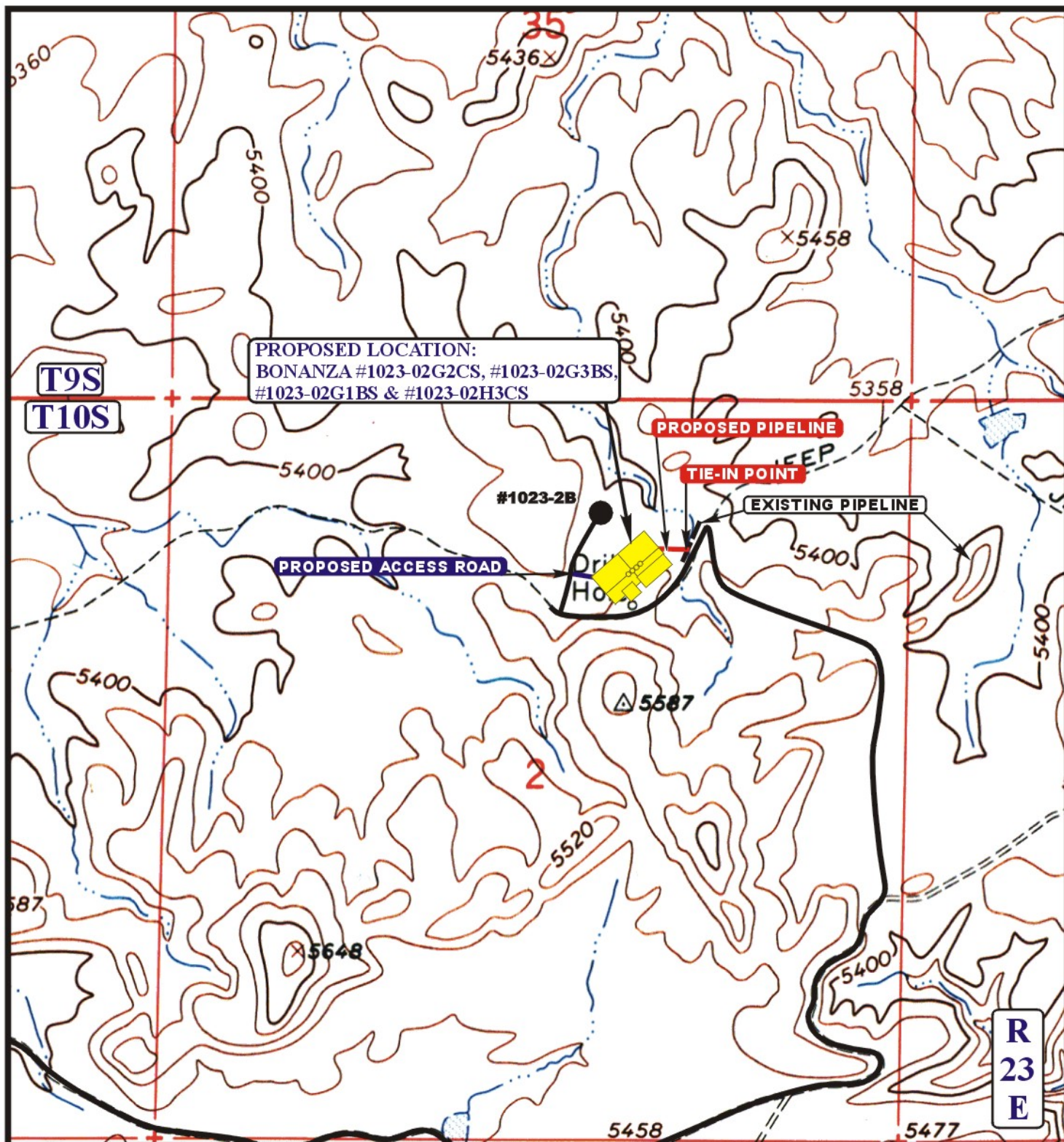
**TOPOGRAPHIC**  
**MAP**

**10 28 08**  
 MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: J.H. REVISED: 00-00-00







APPROXIMATE TOTAL PIPELINE DISTANCE = 192' +/-

**LEGEND:**

- PROPOSED ACCESS ROAD
- EXISTING PIPELINE
- - - - - PROPOSED PIPELINE



**Kerr-McGee Oil & Gas Onshore LP**

BONANZA #1023-02G2CS, #1023-02G3BS,  
#1023-02G1BS & #1023-02H3CS  
SECTION 2, T10S, R23E, S.L.B.&M.  
LOT 2



**Uintah Engineering & Land Surveying**  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

**TOPOGRAPHIC  
MAP**

**10 28 08**  
MONTH DAY YEAR

SCALE: 1" = 1000' DRAWN BY: J.H. REVISED: 00-00-00





**Kerr-McGee Oil & Gas Onshore LP  
BONANZA #1023-02G2CS, #1023-02G3BS, #1023-  
02G1BS & #1023-02H3CS  
SECTION 2, T10S, R23E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 0.3 MILES ON THE SEEP RIDGE ROAD TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 12.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 1.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 1.9 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 0.5 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 3.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 0.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 5.1 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN LEFT AND PROCEED IN A NORTHEASTERLY, THEN EASTERLY DIRECTION APPROXIMATELY 5.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTH; TURN LEFT AND PROCEED IN A NORTHERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 0.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN LEFT AND PROCEED IN A SOUTHWESTERLY, THEN WESTERLY DIRECTION APPROXIMATELY 0.3 MILES TO THE JUNCTION OF AN EXISTING ROAD TO THE NORTH; TURN RIGHT AND PROCEED IN A NORTHERLY DIRECTION APPROXIMATELY 300' TO THE BEGINNING OF THE PROPOSED ACCESS TO THE EAST; FOLLOW ROAD FLAGS IN AN EASTERLY DIRECTION APPROXIMATELY 130' MILES TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 63.7 MILES.



**Kerr-McGee Oil & Gas Onshore LP**  
**BONANZA #1023-02G2CS, #1023-02G3BS,**  
**#1023-02G1BS & #1023-02H3CS**  
**LOCATED IN UTAH COUNTY, UTAH**  
**SECTION 2, T10S, R23E, S.L.B.&M.**



PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHWESTERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: EASTERLY



- Since 1964 -

**UELS** Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

**LOCATION PHOTOS**

**10** **28** **08**  
MONTH DAY YEAR

**PHOTO**

TAKEN BY: D.K.

DRAWN BY: J.H.

REVISED: 00-00-00



**Kerr-McGee Oil & Gas Onshore LP**  
**BONANZA #1023-02G2CS, #1023-02G3BS,**  
**#1023-02G1BS & #1023-02H3CS**  
**LOCATED IN UTAH COUNTY, UTAH**  
**SECTION 5, T10S, R23E, S.L.B.&M.**

**PIPELINE ALIGNMENT**



**PHOTO: VIEW FROM TIE-IN POINT**

**CAMERA ANGLE: WESTERLY**



- Since 1964 -

**UELS** Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

**PIPELINE PHOTOS**

**10 28 08**  
MONTH DAY YEAR

**PHOTO**

TAKEN BY: D.K.

DRAWN BY: J.H.

REVISED: 00-00-00



**Bonanza 1023-2G2CS**

Pad: Bonanza 1023-2B

Surface: 1,230' FNL, 1,962' FEL (NW/4NE/4) Lot 2

BHL: 1,865' FNL 2,395' FEL (SW/4NE/4)

Sec. 2 T10S R23E

Uintah, Utah

Mineral Lease: ML 47062

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN***

**Directional Drilling:**

In accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

Refer to Topo Map A for directions to the location.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

Refer to Topo Maps A and B for location of access roads within a 2 mile radius.

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

**2. Planned Access Roads:**

Approximately  $\pm 0.02$  mi. ( $\pm 130'$ ) of new access road is proposed. Please refer to the attached Topo Map B.

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

***Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.***

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.



**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4. Location of Existing & Proposed Facilities:**

*The following guidelines will apply if the well is productive.*

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Shadow Gray, a non-reflective earthtone.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

**Approximately  $\pm 192'$  of 4" pipeline is proposed. Refer to Topo D for the proposed pipeline.**

**5. Location and Type of Water Supply:**

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim #43-8496, Application #53617.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**6. Source of Construction Materials:**

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.



**7. Methods of Handling Waste Materials:**

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

A plastic reinforced liner and felt will be used; it will be a minimum of 20 mil thick, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit. Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

Any produced water from the proposed well will be contained in a water tank and will then be hauled By truck to one of the pre-approved disposal sites: RNI in Sec. 5 T9S R22E, NBU #159 in Sec. 35 T9S R21E, Ace Oilfield in Sec. 2 T6S R20E, MC&MC in Sec. 12 T6S R19E, Pipeline Facility in Sec. 36 T9S R20E, Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E, Bonanza Evaporation Pond in Sec. 2 T10S R23E.

**8. Ancillary Facilities:**

None are anticipated.



**9. Well Site Layout:** (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

All pits will be fenced according to the following minimum standards:

39 inch net wire will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be re-surveyed and a Form 9 shall be submitted.

**10. Plans for Reclamation of the Surface:**

*Producing Location:*

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.



The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water(s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

*Dry Hole/Abandoned Location:*

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

**11. Surface/Mineral Ownership:**

SITLA  
675 East 500 South, Suite 500  
Salt Lake City, UT 84102

**12. Other Information:**

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Class III archaeological survey report and paleontological survey report is attached.



**13. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720-929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond 22013542.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Kathy Schneebeck Dulnoan

April 2, 2009  
Date





Kerr-McGee Oil & Gas Onshore LP  
P.O. Box 173779  
Denver, CO 80217-3779

March 25, 2009

Ms. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Exception Location R649-3-3 and Directional Drilling R649-3-11  
Bonanza 1023-02G2CS  
T10S- R23E  
Section 2: NWNE/SWNE  
1230' FNL, 1962' FEL (surface)  
1865' FNL, 2395' FEL (bottom hole)  
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-3 and Rule R649-3-11 pertaining to the Exception to Location and Sitting of Wells.

- Kerr-McGee's Bonanza 1023-02G2CS is located within the area covered by Docket No. 2008-011 authorizing the equivalent of an approximate 10-acre well density pattern, and requiring approval for wells drilled at an exception location and wells drilled directionally in accordance with the referenced rules.
- Kerr-McGee is permitting this well at this location and as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to Rule R649-3 and Rule R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink that reads 'Jessy Pink'.

Jessy Pink  
Landman



**IPC #08-298**

## **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Multi-Well Pads, Access Roads,  
Pipelines, and Pipeline Upgrades for "Bonanza #1023-02G2CS,  
02G3BS, 02G1BS, & 02H3CS & #1023-6M1B, 6N1AS,  
6N1CS, & 6N4BS" (Sec. 2 & 6, T 10 S, R 23 E)**

Asphalt Wash  
Topographic Quadrangles  
Uintah County, Utah

February 20, 2009

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078



## INTRODUCTION

At the request of Raleen White of Kerr McGee Onshore LP and authorized by the BLM Vernal Field Office and James Kirkland of the Office of the State Paleontologist, a paleontological reconnaissance survey of Kerr McGee's proposed multi-well pads, access roads, pipelines, and pipeline upgrades for "Bonanza #1023-02G2CS, 02G3BS, 02G1BS, & 02H3CS & #1023-6M1B, 6N1AS, 6N1CS, & 6N4BS" (Sec. 2 & 6, T 10 S, R 23 E) was conducted by Stephen Sandau and Thomas Temme on November 5, 2008. The reconnaissance survey was conducted under the Utah BLM Paleontological Resources Use Permit #UT08-006C and Utah Paleontological Investigations Permit #07-356. This survey to locate, identify and evaluate paleontological resources was done to meet requirements of the National Environmental Policy Act of 1969 and other State and Federal laws and regulations that protect paleontological resources.

## FEDERAL AND STATE REQUIREMENTS

As mandated by the Federal and State government, paleontologically sensitive geologic formations on State lands that are considered for exchange or may be impacted due to ground disturbance require paleontological evaluation. This requirement complies with:

- 1) The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et. Seq., P.L. 91-190);
- 2) The Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2743, 43 U.S.C. § 1701-1785, et. Seq., P.L. 94-579);
- 3) The National Historic Preservation Act. 16 U.S.C. § 470-1, P.L. 102-575 in conjunction with 42 U.S.C. § 5320; and
- 4) The Utah Geological Survey. S. C. A.: 63-73-1. (1-21) and U.C.A.: 53B-17-603

The new Potential Fossil Yield Classification (PFYC) System (October, 2007) replaces the Condition Classification System from Handbook H-8270-1. Geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential.

- **Class 1 – Very Low.** Geologic units (igneous, metamorphic, or Precambrian) not likely to contain recognizable fossil remains.
- **Class 2 – Low.** Sedimentary geologic units not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils. (Including modern eolian, fluvial, and colluvial deposits etc...)
- **Class 3 – Moderate or Unknown.** Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence; or sedimentary units of unknown fossil potential.
  - **Class 3a – Moderate Potential.** The potential for a project to be sited on or impact a significant fossil locality is low, but is somewhat higher for common fossils.



- **Class 3b – Unknown Potential.** Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known.
- **Class 4 – High.** Geologic units containing a high occurrence of vertebrate fossils or scientifically significant invertebrate or plant fossils, but may vary in abundance and predictability.
  - **Class 4a** – Outcrop areas with high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
  - **Class 4b** – Areas underlain by geologic units with high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.
- **Class 5 – Very High.** Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils.
  - **Class 5a** - Outcrop areas with very high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
  - **Class 5b** - Areas underlain by geologic units with very high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.

It should be noted that many fossils, though common and unimpressive in and of themselves, can be important paleo-environmental, depositional, and chronostratigraphic indicators.

## LOCATION

Kerr McGee's proposed multi-well pads, access roads, pipelines, and pipeline upgrades for "Bonanza #1023-02G2CS, 02G3BS, 02G1BS, & 02H3CS; #1023-6M1B, 6N1AS, 6N1CS, & 6N4BS" (Sec. 2, & 6, T 10 S, R 23 E) are on lands managed by the BLM and the State of Utah Trust Lands Administration (SITLA), 2 to 6 miles east of the White River, a few miles north of the Saddletree Draw and Asphalt Wash, and about 14-18 miles southwest of Bonanza, UT. The project area can be found on the Asphalt Wash 7.5 minute U. S. Geological Survey Quadrangle Maps, Uintah County, Utah.



## **PREVIOUS WORK**

The basins of western North America have long produced some of the richest fossil collections in the world. Early Cenozoic sediments are especially well represented throughout the western interior. Paleontologists started field work in Utah's Uinta Basin as early as 1870 (Betts, 1871; Marsh, 1871, 1875a, 1875b). The Uinta Basin is located in the northeastern corner of Utah and covers approximately 31,000 sq. km (12,000 sq. miles) ranging in elevation from 1,465 to 2,130 m (4,800 to 7,000 ft) (Marsell, 1964; Hamblin et al., 1987). Middle to late Eocene time marked a period of dramatic change in the climate, flora, (Stucky, 1992) and fauna (Black and Dawson, 1966) of North America.

## **GEOLOGICAL AND PALEONTOLOGICAL OVERVIEW**

Early in the geologic history of Utah, some 1,000 to 600 Ma, an east-west trending basin developed creating accommodation for 25,000 feet of siliclastics. Uplift of that filled-basin during the early Cenozoic formed the Uinta Mountains (Rasmussen et al., 1999). With the rise of the Uinta Mountains the asymmetrical synclinal Uinta Basin is thought to have formed through the effects of down warping in connection with the uplift. Throughout the Paleozoic and Mesozoic deposition fluctuated between marine and non-marine environments laying down a thick succession of sediments in the area now occupied by the Uinta Basin. Portions of these beds crop out on the margins of the basin due to tectonic events during the late Mesozoic.

Early Tertiary Uinta Basin sediments were deposited in alternating lacustrine and fluvial environments. Large shallow lakes periodically covered most of the basin and surrounding areas during early to mid Eocene time (Abbott, 1957). These lacustrine sediments show up in the western part of the basin, dipping 2-3 degrees to the northeast and are lost in the subsurface on the east side. The increase of cross-bedded, coarse-grained sandstone and conglomerates preserved in paleo-channels indicates a transition to a fluvial environment toward the end of the epoch.

Four Eocene formations are recognized in the Uinta Basin: the Wasatch, Green River, Uinta and Duchesne River, respectively (Wood, 1941). The Uinta Formation is subdivided into two lithostratigraphic units namely: the Wagonhound Member (Wood, 1934), formerly known as Uinta A and B (Osborn, 1895, 1929) and the Myton Member previously regarded as the Uinta C.

Within the Uinta Basin in northeast Utah, the Uinta Formation in the western part of the basin is composed primarily of lacustrine sediments inter-fingering with over-bank deposits of silt and mudstone and westward flowing channel sands and fluvial clays, muds, and sands in the east (Bryant et al, 1990; Ryder et al, 1976). Stratigraphic work done by early geologists and paleontologists within the Uinta Formation focused on the definition of rock units and attempted to define a distinction between early and late Uintan faunas (Riggs, 1912; Peterson and Kay, 1931; Kay 1934). More recent work focused on magnetostratigraphy, radioscopic chronology and continental biostratigraphy (Flynn, 1986; Prothero, 1996). Well-known for its fossiliferous nature and distinctive mammalian fauna of mid-Eocene Age, the Uinta Formation is the type formation for the Uintan Land Mammal Age (Wood et al, 1941).



The Duchesne River Formation of the Uinta Basin in northeastern Utah is composed of a succession of fluvial and flood plain deposits composed of mud, silt and sandstone. The source area for these late Eocene deposits is from the Uinta Mountains indicated by paleocurrent data (Anderson and Picard, 1972). In Peterson's (1931c) paper, the name "Duchesne Formation" was applied to the formation and it was later changed to the "Duchesne River Formation" by Kay (1934). The formation is divided up into four members: the Brennan Basin, Dry Gulch Creek, LaPoint and Starr Flat (Anderson and Picard, 1972). Debates concerning the Duchesne River Formation, as to whether its age was late Eocene or early Oligocene, have surfaced throughout the literature of the last century (Wood et al., 1941; Scott 1945). Recent paleo-magnetostratigraphic work (Prothero, 1996) shows that the Duchesne River Formation is late Eocene in time.

## **FIELD METHODS**

In order to determine if the proposed project area contained any paleontological resources, a reconnaissance survey was performed. An on-site observation of the proposed areas undergoing surficial disturbance is necessary because judgments made from topographic maps alone are often unreliable. Areas of low relief have potential to be erosional surfaces with the possibility of bearing fossil materials rather than surfaces covered by unconsolidated sediment or soils.

When found within the proposed construction areas, outcrops and erosional surfaces were checked to determine if fossils were present and to assess needs. Careful effort is made during surveys to identify and evaluate significant fossil materials or fossil horizons when they are found. Microvertebrates, although rare, are occasionally found in anthills or upon erosional surfaces and are of particular importance.

## **PROJECT AREA**

The project area is situated in the Wagonhound Member (Uinta B) of the Uinta Formation. The following list provides a description of the individual multi-well pads and their associated pipelines, pipeline upgrades, and access roads.

### **Bonanza #1023-02G2CS, 02G3BS, 02G1BS, & 02H3CS**

The proposed access road, pipeline, and well pad are located in the SW/NW quarter-quarter section of Sec. 2, T 10 S, R 23 E (Figure 1). The project area is situated in low, rolling drainage-cut hills of an arid scrubland. Ground cover consists of silty soil and colluvium derived from clasts of green, purple, and tan siltstones and disaggregated mudstones. Alternating beds of semi-fissile green and tan siltstones and friable green and tan mudstones outcrop in small hills and stream banks throughout the project area. Several isolated fossil fragments and turtle scatters were observed in colluvium within the well pad boundary. Most fragments were moderately to well preserved and highly weathered.



### **Bonanza #1023-6M1B, 6N1AS, 6N1CS, & 6N4BS**

The proposed access road, pipeline, and well pad are located in the SW/NW quarter-quarter section of Sec. 6, T 10 S, R 23 E (Figure 2). The project area is situated in large rolling hills, ridges, and buttes as well as drainage-cut valleys and canyons of an arid scrubland. Ground cover consists of silty soil and colluvium/alluvium derived from clasts of green, purple, and tan siltstones; tan, medium to coarse-grained, sub-arkosic sandstone; and disaggregated mudstones and sandstones. Lithologies exposed in the project area are consistent with that of the lower Wagonhound Member and include green, gray, purple, and tan siltstones and mudstones; green and orange-tan, medium to coarse-grained, sub-arkosic sandstones; and purple, fine-grained, parallel-bedded lithic sandstone. Cross-bedded, channel-fill sandstones and conglomeratic sandstone lenses appear in the thickly bedded, tan sandstone layers. Outcrops in the project area occur as resistant beds in hillsides or as exposures in drainage-cut banks or bottoms.

Infrequent to abundant isolated fossil fragments and turtle scatters were observed in colluvium throughout the project area, with higher concentrations observed around the access road to well pad tie-in area and along the eastern edge of the well pad. Most fragments were poorly to well preserved and highly weathered. Seven individual turtles (*?Echmatemys* sp.), were observed in the project area, as fragmentary concentrations sourcing from green and tan siltstones or concentrated in colluvium. A small concentration of unidentifiable mammal limb bone fragments was observed near the pit of the proposed well pad sourcing from green siltstone. A small fragment of petrified wood was also observed in the colluvium of the pit area. Ichnofossil burrows, presumably *Planolites*, were observed in the green, medium-grained sandstones.

### **SURVEY RESULTS**

<b>PROJECT</b>	<b>GEOLOGY</b>	<b>PALEONTOLOGY</b>
<b>“Bonanza #1023-02G2CS, 02G3BS, 02G1BS, &amp; 02H3CS”</b> (Sec. 2, T 10 S, R 23 E)	The project area is situated in low, rolling drainage-cut hills of an arid scrubland. Ground cover consists of silty soil and colluvium derived from clasts of green, purple, and tan siltstones and disaggregated mudstones. Alternating beds of semi-fissile green and tan siltstones and friable green and tan mudstones outcrop in small hills and stream banks throughout the project area.	Several isolated fossil fragments and turtle scatters were observed in colluvium within the well pad boundary. Most fragments were moderately to well preserved and highly weathered. <b>Class 4a</b>



<p><b>“Bonanza #1023-6M1B, 6N1AS, 6N1CS, &amp; 6N4BS”</b> (Sec. 6, T 10 S, R 23 E)</p>	<p>The project area is situated in large rolling hills, ridges, and buttes as well as drainage-cut valleys and canyons of an arid scrubland. Ground cover consists of silty soil and colluvium/alluvium derived from clasts of green, purple, and tan siltstones; tan, medium to coarse-grained, sub-arkosic sandstone; and disaggregated mudstones and sandstones. Lithologies exposed in the project area are consistent with that of the lower Wagonhound Member and include green, gray, purple, and tan siltstones and mudstones; green and orange-tan, medium to coarse-grained, sub-arkosic sandstones; and purple, fine-grained, parallel-bedded lithic sandstone. Cross-bedded, channel-fill sandstones and conglomeratic sandstone lenses appear in the thickly bedded, tan sandstone layers. Outcrops in the project area occur as resistant beds in hillsides or as exposures in drainage-cut banks or bottoms.</p>	<p>Infrequent to abundant isolated fossil fragments and turtle scatters were observed in colluvium throughout the project area, with higher concentrations observed around the access road to well pad tie-in area and along the eastern edge of the well pad. Most fragments were poorly to well preserved and highly weathered. Seven individual turtles (<i>?Echmatemys</i> sp.), were observed in the project area, as fragmentary concentrations sourcing from green and tan siltstones or concentrated in colluvium. A small concentration of unidentifiable mammal limb bone fragments was observed near the pit of the proposed well pad sourcing from green siltstone. A small fragment of petrified wood was also observed in the colluvium of the pit area. Ichnofossil burrows, presumably <i>Planolites</i>, were observed in the green, medium-grained sandstones.</p> <p><b>Class 4a</b></p>
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## RECOMMENDATIONS

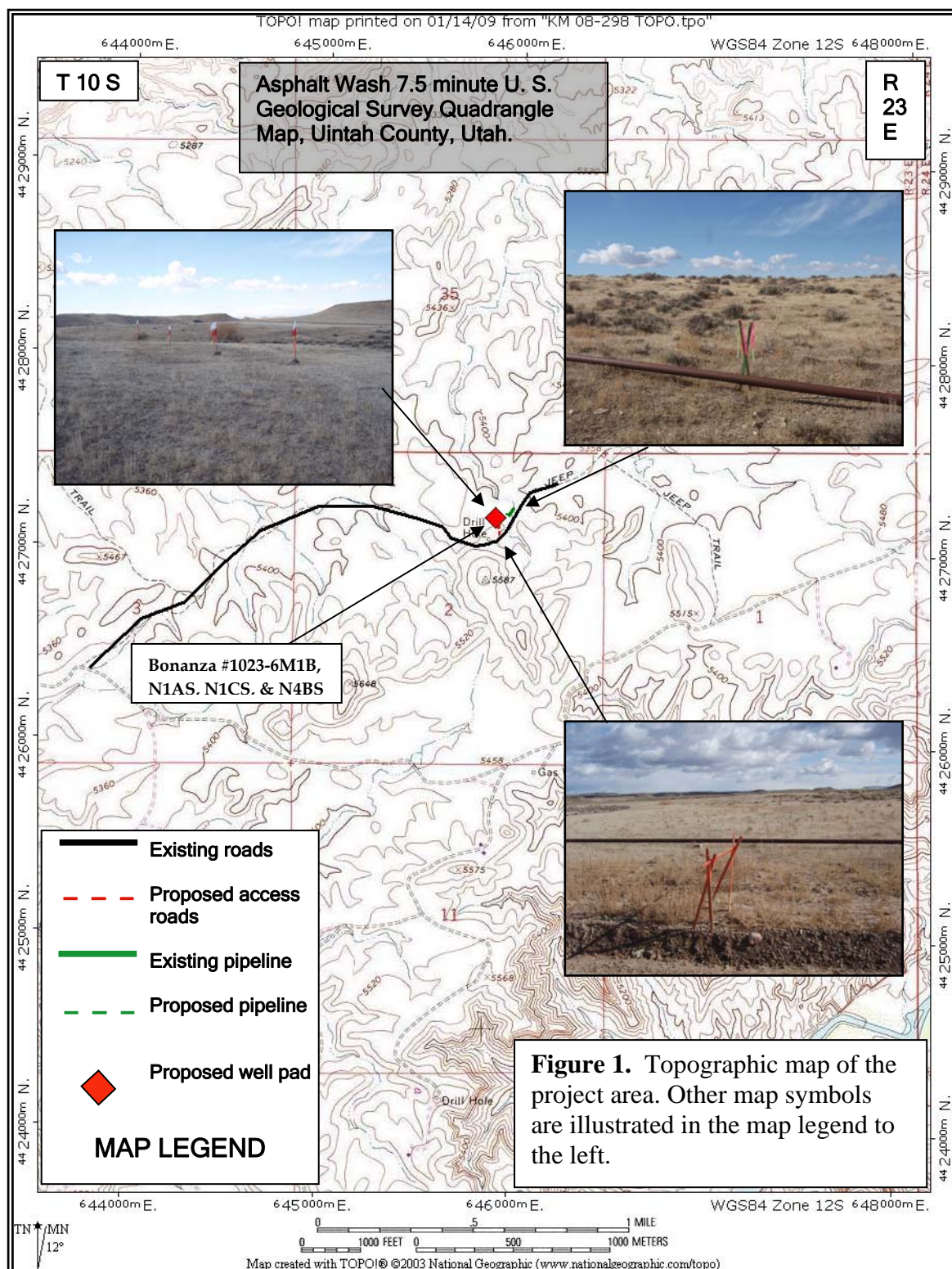
A reconnaissance survey was conducted for Kerr McGee's proposed multi-well pads, access roads, pipelines, and pipeline upgrades for "Bonanza #1023-02G2CS, 02G3BS, 02G1BS, & 02H3CS; #1023-6M1B, 6N1AS, 6N1CS, & 6N4BS" (Sec. 2 & 6, T 10 S, R 23 E). The well pads and the associated access roads, pipeline upgrades, and pipelines covered in this report showed some signs of vertebrate fossils, therefore, we advise the following recommendations.

**Due to the abundance of vertebrate fossil material found within the project area for "Bonanza #1023-6M1B, 6N1AS, 6N1CS, & 6N4BS", we recommend that a permitted paleontologist be present to monitor the construction of the proposed access road, pipeline and well pad.**

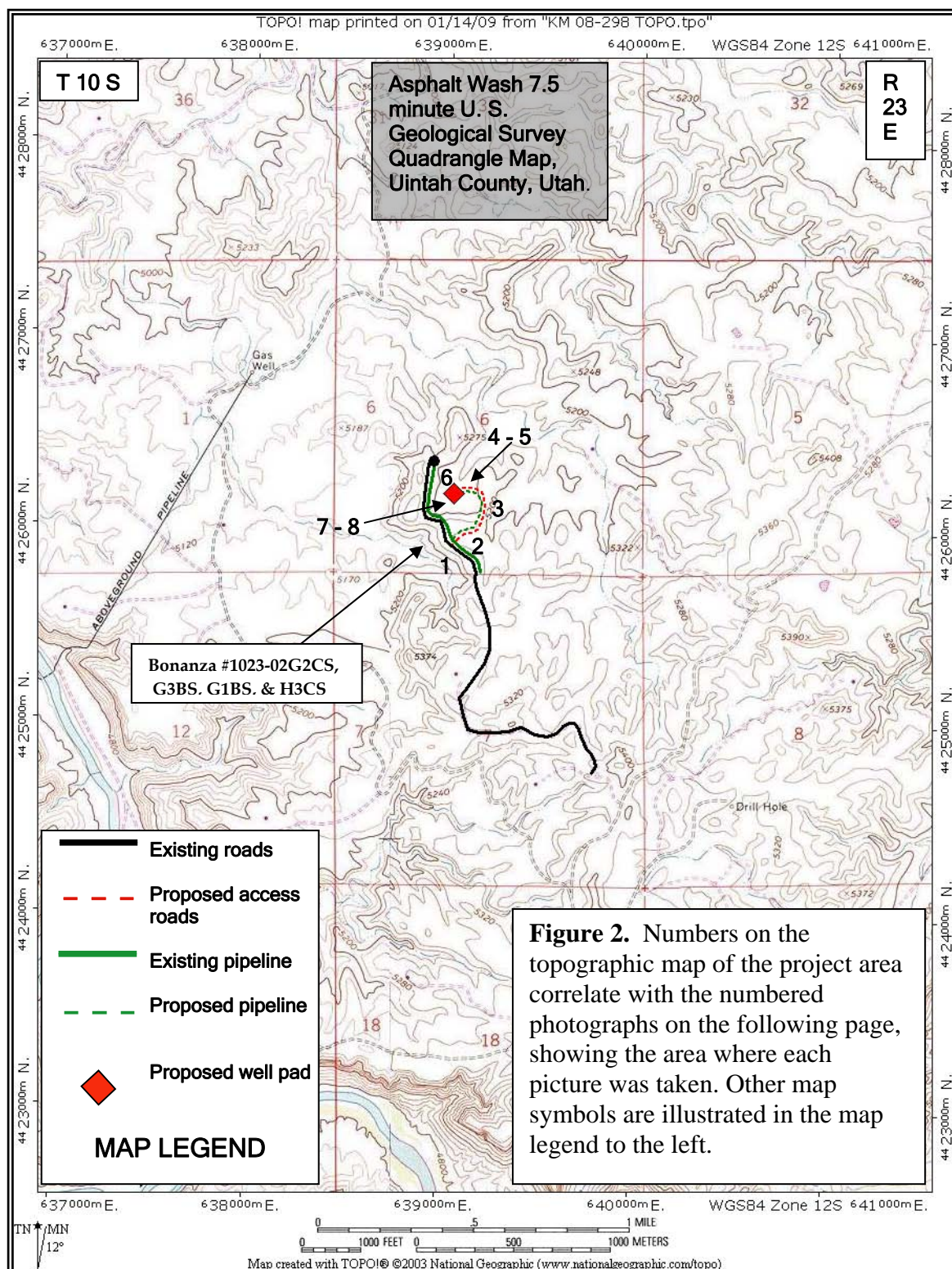
**Furthermore, we recommend that no paleontological restrictions should be placed on the development of the proposed project area for "Bonanza #1023-02G2CS, 02G3BS, 02G1BS, & 02H3CS."**

Nevertheless, if any vertebrate fossil(s) are found during construction within the project area, Operator (Lease Holder) will report all occurrences of paleontological resources discovered to a geologist with the Vernal Field Office of the BLM and the Office of the State Paleontologist. The operator is responsible for informing all persons in the areas who are associated with this project of the requirements for protecting paleontological resources. Paleontological resources found on the public lands are recognized by the BLM and State as constituting a fragile and nonrenewable scientific record of the history of life on earth, and so represent an important and critical component of America's natural heritage. These resources are afforded protection under 43 CFR 3802 and 3809, and penalties possible for the collection of vertebrate fossils are under 43 CFR 8365.1-5.



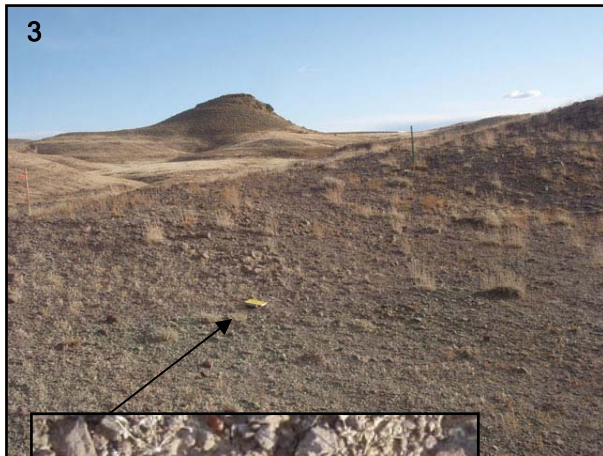






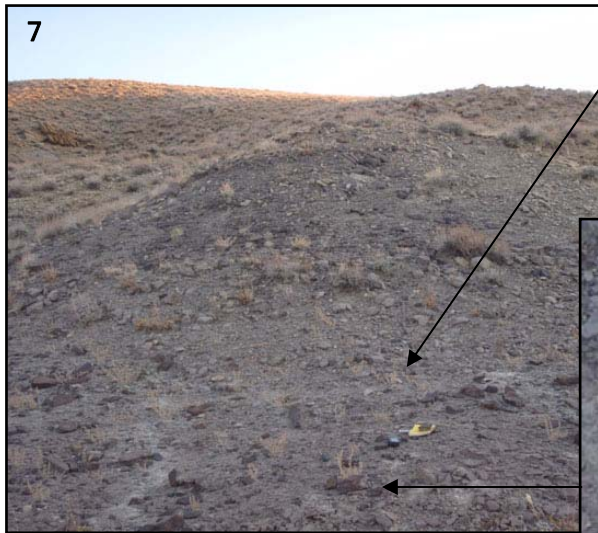
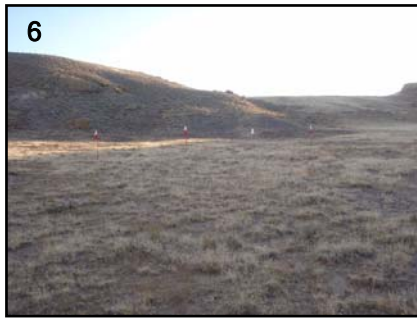


**Figure 2.** *continued...*





**Figure 2.** *continued...*





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CLASS I REVIEW OF KERR-MCGEE OIL AND GAS  
ONSHORE LP'S ELEVEN PROPOSED WELL LOCATIONS  
IN TOWNSHIP 10S, RANGE 23E, SECTIONS 2 AND 7,  
UINTAH COUNTY, UTAH



CLASS I REVIEW OF KERR-MCGEE OIL AND GAS  
ONSHORE LP'S ELEVEN PROPOSED WELL LOCATIONS  
IN TOWNSHIP 10S, RANGE 23E, SECTIONS 2 AND 7,  
UINTAH COUNTY, UTAH

By:

Patricia Stavish

Prepared For:

State of Utah  
School & Institutional Trust Lands Administration  
and  
Bureau of Land Management  
Vernal Field Office

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 09-009

March 3, 2009

United States Department of Interior (FLPMA)  
Permit No. 08-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117



## INTRODUCTION

A Class I literature review was completed Montgomery Archaeological Consultants Inc. (MOAC) in February 2009 of Kerr-McGee Onshore's 11 proposed directional well locations with associated access and pipeline corridors in Township 10S, Range 23E, Sections 2 and 7. The project area is situated north of the White River, south of the town of Vernal, Uintah County, Utah. The well pads are designated: (Bonanza #1023-02B) Directional Pad, Bonanza #1023-02G1BS, Bonanza #1023-02G3BS, Bonanza #1023-02G2CS, Bonanza #1023-02H3CS, Bonanza #1023-02F Directional Pad, Bonanza #1023-02K1S, Bonanza #1023-02K4S, Bonanza #1023-02L2S, Bonanza #1023-02M1S, and Bonanza #1023-7E-4. This document was implemented at the request of Ms. Raleen White, Kerr-McGee Onshore LP, Denver, Colorado. Land status includes state lands administered by the State of Utah School & Institutional Trust Lands Administration (SITLA) and public lands administered by the Bureau of Land Management, Vernal Field Office.

The purpose of this Class I review is to identify, classify, and evaluate the previously conducted cultural resource inventories and archaeological sites in the project area in order to comply with Section 106 of 36 CFR 800, the National Historic Preservation Act of 1966 (as amended). Also, the inventory was implemented to attain compliance with a number of federal and state mandates, including the National Environmental Policy Act of 1969, the Archaeological and Historic Conservation Act of 1972, the Archaeological Resources Protection Act of 1979, the American Indian Religious Freedom Act of 1978, and the Utah State Antiquities Act of 1973 (amended 1990).

The project area, in which Kerr-McGee Onshore's 11 proposed directional well locations occur, was previously inventoried by MOAC in 2003 for two Class III block inventories of Westport Oil & Gas Company's proposed oil and gas development in Sections 2 and 7 (Elkins and Montgomery 2003a,b). A file search was completed by consulting MOAC's Class I existing data review of 459 square miles (293,805 acres) covering the Greater NBU study area between Bonanza and Ouray in Uintah County, northeastern Utah (Patterson et al. 2008). Kerr-McGee Oil & Gas Onshore LP proposes to explore and develop oil and natural gas resources throughout the area. Record searches were performed for this Class I project by Marty Thomas at the Utah State Historic Preservation Office (SHPO) on various dates between June 14, 2006 and January 27, 2007. The results of this Class I data review and Class III inventory indicated that one previous archaeological site (42Un3475) occurs near the current project area.

## DESCRIPTION OF THE PROJECT AREA

The project area is situated near the Southman Canyon Gas Field and north of the White River in the Uinta Basin. The legal description is Township 10 South, Range 23 East, Sections 2 and 7 (Table 1; Figure 1).



Table 1. Kerr-McGee Onshore's 11 Proposed Directional Well Locations.

Well Designation	Legal Description	Access/Pipeline Corridor	Cultural Resources
(Bonanza #1023-02B) Directional Pad Bonanza #1023-02G1BS Bonanza #1023-02G3BS Bonanza #1023-02G2CS Bonanza #1023-02H3CS	NW/NE Sec. 2, T10S, R23E	Access: 142 ft Pipeline: 204 ft	None
Bonanza #1023-02F Directional Pad Bonanza #1023-02K1S Bonanza #1023-02K4S Bonanza #1023-02L2S Bonanza #1023-02M1S	SE/NW Sec. 2, T10S, R23E	Pipeline: 3844 ft	42Un3475
Bonanza #1023-7E-4	SW/NW Sec. 7, T10S, R23E	Pipeline: 573 ft Access: 310 ft	None

### Environmental Setting

The study area lies within the Uinta Basin physiographic unit, a distinctly bowl-shaped geologic structure (Stokes 1986:231). The Uinta Basin ecosystem is within the Green River drainage, considered to be the northernmost extension of the Colorado Plateau. The geology is comprised of Tertiary age deposits, which include Paleocene age deposits and Eocene age fluvial and lacustrine sedimentary rocks. The Uinta Formation, which is predominate in the project area, occurs as eroded outcrops (formed by fluvial deposited, stream laid interbedded sandstone and mudstone), and is known for its prolific paleontological localities. Specifically, the inventory area is situated adjacent to the White River and Bitter Creek. Elevation averages 4860 ft asl. The project occurs within the Upper Sonoran Desert Shrub Association which includes; sagebrush, shadscale, greasewood, mat saltbush, snakeweed, rabbitbrush, and prickly pear cactus. Modern disturbances include livestock grazing, roads, and oil/gas development.



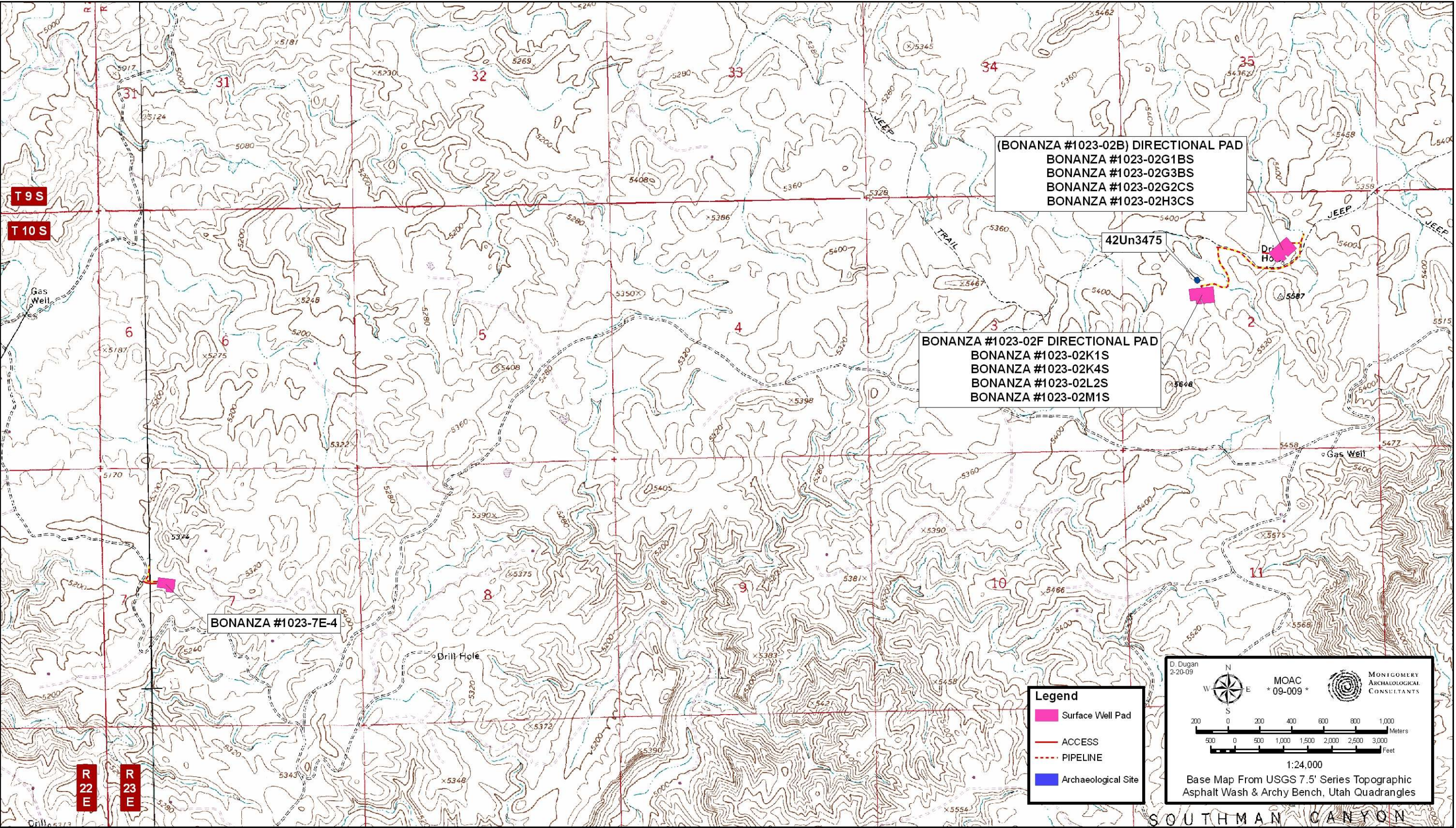


Figure 1. Kerr-McGee Oil & Gas Onshore LP's 11 Proposed Well Locations with Access and Pipeline Corridors, Uintah County, Utah.



## CLASS I RESULTS AND RECOMMENDATIONS

The Class I literature review resulted in the location of one previously documented site, 42Un3475. Site 42Un3475 is a prehistoric temporary camp documented by MOAC in 2003 (Elkins and Montgomery 2003a). The site consists of a rockshelter with a hearth and an artifact scatter. 42Un3475 has been recommended as eligible to the NRHP under Criterion D.

The Class I literature review of 11 proposed well locations with associated pipeline and access corridors in Township 10S, Range 23E, Sections 2 and 7 resulted in the location of one previously documented archaeological site (42Un3474). Site 42Un3475 has been evaluated as eligible to the NRHP under Criterion D. It is recommended that site 42Un3475 be avoided by the undertaking. The Bonanza #1023-02F well pad is situated 100 ft from the site and 75 ft from the associated pipeline, which should provide avoidance of the site. Based on the adherence to this avoidance recommendation, a determination of "no adverse impact" is proposed pursuant to Section 106, CFR 800.

## REFERENCES CITED

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- 2003b Cultural Resource Block Inventory of Sections 4, 5, 6, 7, and 8, Township 10 South, Range 23 East for Westport Oil & Gas Company, Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report No. U-03-MQ-882b.
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1986 *Geology of Utah*. Utah Museum of Natural History and Utah Geological and Mineral Survey, Salt Lake City.







**From:** Davis, Jim(Jim Davis)  
**To:** Mason, Diana  
**Date:** 4/23/2009 7:37 AM  
**Subject:** Kmg well approvals (8)

**CC:** Garrison, LaVonne, Bonner, Ed, "White, Raleen" <Raleen.White@anadarko.com>  
The following wells have been approved by SITLA including arch and paleo clearance.

NBU 922-32E2S -4304750351  
NBU 922-32F2S -4304750350  
NBU 922-32F3T - 4304750349  
NBU 922-32K1S - 4304750348

BONANZA 1023-2G1BS - 4304750347  
BONANZA 1023-2G2CS - 4304750346  
BONANZA 1023-2G3BS - 4304750345  
BONANZA 1023-2H3CS - 4304750344

-Jim

Jim Davis  
State of Utah  
Trust Lands Administration  
(801) 538-5156



Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. BONANZA 1023-2G2CS 43047			
String	Surf	Prod		
Casing Size(in)	9.625	4.500		
Setting Depth (TVD)	2200	8000		
Previous Shoe Setting Depth (TVD)	20	2200		
Max Mud Weight (ppg)	8.4	11.6		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3520	7780		
Operators Max Anticipated Pressure (psi)	4560	11.0		

Calculations	Surf String	9.625	"
Max BPH (psi)	.052*Setting Depth*MW=	961	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	697	NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	477	YES Reasonable depth in area, no expected pressure
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	481	NO Reasonable depth in area, no expected pressure
Required Casing/BOPE Test Pressure=		2200	psi
*Max Pressure Allowed @ Previous Casing Shoe=		20	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	4.500	"
Max BPH (psi)	.052*Setting Depth*MW=	4826	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	3866	YES
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3066	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	3550	NO Reasonable, not max allowed pressure
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2200	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BPH (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BPH (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient



Production  
8159. MD  
8000. TVD



Well name:	<b>43047503460000 BONANZA 1023-2G2CS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Surface	Project ID: 43-047-50346
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 8.400 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 106 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

Cement top: 703 ft

**Burst**

Max anticipated surface pressure: 1,936 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,200 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

Tension is based on air weight.  
Neutral point: 1,926 ft

**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 9,159 ft  
Next mud weight: 11.600 ppg  
Next setting BHP: 5,519 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,200 ft  
Injection pressure: 2,200 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2200	9.625	36.00	J-55	LT&C	2200	2200	8.796	17989
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	960	2020	2.104	2200	3520	1.60	79.2	453	5.72 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: April 29, 2009  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2200 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.



Well name:	<b>43047503460000 BONANZA 1023-2G2CS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Production	Project ID: 43-047-50346
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 11.600 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 187 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 3,061 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 4,820 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

Tension is based on air weight.  
Neutral point: 6,772 ft

**Directional well information:**

Kick-off point 0 ft  
Departure at shoe: 771 ft  
Maximum dogleg: 3 °/100ft  
Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	8159	4.5	11.60	I-80	LT&C	8000	8159	3.875	107699

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	4820	6360	1.319	4820	7780	1.61	92.8	212	2.28 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: April 29, 2009  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 8000 ft, a mud weight of 11.6 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*



# **ON-SITE PREDRILL EVALUATION**

## **Utah Division of Oil, Gas and Mining**

<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.				
<b>Well Name</b>	BONANZA 1023-2G2CS				
<b>API Number</b>	43047503460000	<b>APD No</b>	1404	<b>Field/Unit</b>	NATURAL BUTTES
<b>Location: 1/4,1/4</b>	NWNE	<b>Sec 2</b>	<b>Tw 10.0S</b>	<b>Rng 23.0E</b>	1230 FNL 1962 FEL
<b>GPS Coord (UTM)</b>	<b>Surface Owner</b>				

### **Participants**

Floyd Bartlett (DOGM), Jim Davis (SITLA), Ramie Hoopes, Griz Oleen and Tony Kzneck (Kerr McGee), Pat Rainbolt (UDWR) and David Kay (Uintah Engineering and Land Surveying).

### **Regional/Local Setting & Topography**

The general area is within the south edge of the Coyote Wash Drainage southwest of Bonanza, Utah. This drainage is a major drainage beginning near the Utah-Colorado border to the east and joining the White River approximately 8 miles to the west. The drainage consists of several significant side drainages. The drainage is dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. The topography is characterized by rolling hills, frequently divided by gentle to deep draws, which flow into Coyote Wash. The draws are often rimmed with steep side hills with exposed sand stone bedrock cliffs. Ouray, Utah is approximately 31.6 road miles to the northwest with Vernal, Utah approximately 35 air miles to the northwest. The area is accessed by Utah State, Uintah County and existing oilfield development Roads to within 300 feet of the site.

Four gas wells are proposed to be directionally drilled from this pad. Part of the location is on the old reclaimed pad of the Hagar #1 well, which has been plugged. The pad will be oriented in a southwest to northeast direction. It is on a gentle to moderately steep north slope which extends away from a high ridge to the south. To the north the pad will end near the pad of another active well. This pad could not be used because of the additional distance from down-hole targets of some wells from this location. An active drainage angle across the location from corner 8 to corner 1. This draw will be diverted along the northwest corner of the pad. A small dam exists in this draw which furnishes water for antelope. A new pond will be constructed in the general area to replace this pond. No stability problems were noted with the old pad. The selected site appears to be a good location for constructing a pad and drilling and operating the proposed wells.

Both the surface and minerals for this location are owned by SITLA.

### **Surface Use Plan**

#### **Current Surface Use**

Grazing  
Recreational  
Wildlfe Habitat

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0.02	<b>Width 335 Length 440</b>	Onsite	UNTA

**Ancillary Facilities** N

### **Waste Management Plan Adequate?**

### **Environmental Parameters**

**Affected Floodplains and/or Wetlands** N



### Flora / Fauna

Vegetation is poor with halogeton, annual mustard, greasewood, broom snakeweed and shadscale present.

Antelope, coyote, small mammals and birds. Winter domestic sheep grazing

### Soil Type and Characteristics

Soils are a rocky shallow sandy loam

### Erosion Issues N

An active drainage angle across the location from corner 8 to corner 1. This draw will be diverted along the northwest corner of the pad.

### Sedimentation Issues N

### Site Stability Issues N

### Drainage Diversion Required? Y

An active drainage angle across the location from corner 8 to corner 1. This draw will be diverted along the northwest corner of the pad.

### Berm Required? N

### Erosion Sedimentation Control Required? Y

An active drainage angle across the location from corner 8 to corner 1. This draw will be diverted along the northwest corner of the pad.

**Paleo Survey Run?      Paleo Potental Observed?      Cultural Survey Run?      Cultural Resources?**

### Reserve Pit

#### Site-Specific Factors

#### Site Ranking

<b>Distance to Groundwater (feet)</b>	100 to 200	5
<b>Distance to Surface Water (feet)</b>	300 to 1000	2
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>		20
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>		0
<b>Affected Populations</b>		
<b>Presence Nearby Utility Conduits</b>	Not Present	0
	<b>Final Score</b>	42

1 Sensitivity Level

### Characteristics / Requirements

A reserve pit 100'x 250'x 10' deep is planned in an area of cut in the south west corner of the location. Because the length of time the reserve pit will be used and the roughness of the terrain, Kerr McGee committed to line it with a double 20-mil.liner and an appropriate thickness of felt sub-liner to cushion the rock. A second pit for completion flows is shown on the Layout Sheet. If it is to be constructed it will be applied for separately.



**Closed Loop Mud Required? N Liner Required? Y Liner Thickness 40 Pit Underlayment Required? Y**

**Other Observations / Comments**

Write-up completed 04-14-2009

Floyd Bartlett  
**Evaluator**

11/18/2008  
**Date / Time**



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# Application for Permit to Drill

## Statement of Basis

5/6/2009

### Utah Division of Oil, Gas and Mining

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<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
1404	43047503460000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	BONANZA 1023-2G2CS		<b>Unit</b>		
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	NWNE 2 10S 23E S 1230 FNL 1962 FEL GPS Coord (UTM) 645908E 4426927N				

#### Geologic Statement of Basis

Kerr McGee proposes to set 2,200' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 3,400'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought to above the base of the moderately saline groundwater in order to isolate it from fresher waters uphole.

Brad Hill  
APD Evaluator

4/15/2009  
Date / Time

#### Surface Statement of Basis

The general area is within the south edge of the Coyote Wash Drainage southwest of Bonanza, Utah. This drainage is a major drainage beginning near the Utah-Colorado border to the east and joining the White River approximately 8 miles to the west. The drainage consists of several significant side drainages. The drainage is dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. The topography is characterized by rolling hills, frequently divided by gentle to deep draws, which flow into Coyote Wash. The draws are often rimmed with steep side hills with exposed sand stone bedrock cliffs. Ouray, Utah is approximately 31.6 road miles to the northwest with Vernal, Utah approximately 35 air miles to the northwest. The area is accessed by Utah State, Uintah County and existing oilfield development Roads to within 300 feet of the site.

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A reserve pit 100'x 250'x 10' deep is planned in an area of cut in the south west corner of the location. Because the length of time the reserve pit will be used and the roughness of the terrain, Kerr McGee committed to line it with a double 20-mil.liner and an appropriate thickness of felt sub-liner to cushion the rock. A second pit for completion flows is shown on the Layout Sheet. If it is to be constructed it will be applied for separately.

Both the surface and minerals for this location are owned by SITLA. Jim Davis of SITLA attended the pre-site visit and had no concerns regarding the proposed location.

Pat Rainbolt represented the Utah Division of Wildlife Resources. Mr. Rainbolt stated the area is classified as



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# Application for Permit to Drill

## Statement of Basis

5/6/2009

Utah Division of Oil, Gas and Mining

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Page 2

critical yearlong habitat for antelope. He however recommended no stipulations for this species as the loss of forage from this location is not significant and water not forage is the factor limiting the herd population in the area. He encouraged replacement of the existing pond with another pond in the general area. No other wildlife is expected to be affected. He gave Ramie Hoopes, representing Kerr McGee and Mr. Davis a copy of his evaluation and a DWR recommended seed mix to use when re-vegetating the area.

Floyd Bartlett  
Onsite Evaluator

11/18/2008  
Date / Time

### Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A double synthetic liner each with a minimum thickness of 20 mils and an appropriate thickness of felt sub-liner to cushion the liners shall be properly installed and maintained in the reserve pit.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.
Surface	The reserve pit shall be fenced upon completion of drilling operations.



# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 4/13/2009

**API NO. ASSIGNED:** 43047503460000

**WELL NAME:** BONANZA 1023-2G2CS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6007

**CONTACT:** Kathy Schneebeck-Dulnoan

**PROPOSED LOCATION:** NWNE 2 100S 230E

**Permit Tech Review:** ☒

**SURFACE:** 1230 FNL 1962 FEL

**Engineering Review:** ☒

**BOTTOM:** 1865 FNL 2395 FEL

**Geology Review:** ☒

**COUNTY:** UINTAH

**LATITUDE:** 39.98182

**LONGITUDE:** -109.29121

**UTM SURF EASTINGS:** 645908.00

**NORTHINGS:** 4426927.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 3 - State

**LEASE NUMBER:** ML 47062

**PROPOSED FORMATION:** WSMVD

**SURFACE OWNER:** 3 - State

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

- ☒ **PLAT**
- ☒ **Bond:** STATE/FEE - 22013542
- ☐ **Potash**
- ☐ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☒ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☐ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

- ☐ **R649-2-3.**
- Unit:**
- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☒ **Drilling Unit**
- Board Cause No:** Cause 179-14
- Effective Date:** 6/12/2008
- Siting:** 460' fr ext. drl. unit boundary
- ☒ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**  
5 - Statement of Basis - bhill  
15 - Directional - dmason  
25 - Surface Casing - ddoucet





JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** BONANZA 1023-2G2CS

**API Well Number:** 43047503460000

**Lease Number:** ML 47062

**Surface Owner:** STATE

**Approval Date:** 4/30/2009

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P. , P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 179-14 .

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

Surface casing shall be cemented to the surface.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to spudding the well - contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program - contact



Dustin Doucet

- Prior to commencing operations to plug and abandon the well - contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well - contact Dustin Doucet
- Any changes to the approved drilling plan - contact Dustin Doucet

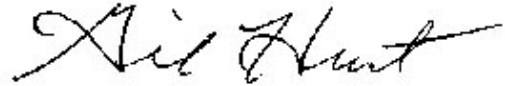
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

- Dan Jarvis at: (801) 538-5338 office  
(801) 942-0871 home
- Carol Daniels at: (801) 538-5284 office
- Dustin Doucet at: (801) 538-5281 office  
(801) 733-0983 home

**Reporting Requirements:**

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

**Approved By:**

A handwritten signature in black ink, appearing to read "Gil Hunt", with a stylized, cursive script.

Gil Hunt  
Associate Director, Oil & Gas



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 47062			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b>			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-2G2CS			
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1230 FNL 1962 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 2 Township: 10.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43047503460000			
<b>PHONE NUMBER:</b> 720 929-6587 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 6/8/2009  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: Correction         </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: Correction
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee) respectfully requests the following correction be made to the approved APD for this well: the number of acres in the drilling unit is 320 acres. All other information remains the same. Please contact the undersigned with any questions and/or comments. Thank you for your assistance.					
<b>NAME (PLEASE PRINT)</b> Kathy Schneebeck-Dulnoan	<b>PHONE NUMBER</b> 720 929-6007	<b>TITLE</b> Staff Regulatory Analyst			
<b>SIGNATURE</b> N/A	<b>DATE</b> 5/20/2009				

 RECEIVED May 20, 2009



## DIVISION OF OIL, GAS AND MINING

### **SPUDDING INFORMATION**

Name of Company: KERR-McGEE OIL & GAS ONSHORE, L.P.

Well Name: BONANZA 1023-2G2CS

Api No: 43-047-50346 Lease Type: STATE

Section 02 Township 10S Range 23E County UINTAH

Drilling Contractor PETE MARTIN DRLG RIG # BUCKET

### **SPUDDED:**

Date 12/14/2009

Time 4:30 PM

How DRY

**Drilling will Commence:** \_\_\_\_\_

Reported by JAMES GOBER

Telephone # (435) 828-2079

Date 12/14/2009 Signed CHD



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 47062
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-2G2CS
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<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> <b>ACIDIZE</b>	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> <b>ALTER CASING</b>	
<input checked="" type="checkbox"/> <b>SPUD REPORT</b> Date of Spud: 12/14/2009	<input type="checkbox"/> <b>CASING REPAIR</b>	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> <b>CHANGE TO PREVIOUS PLANS</b>	
	<input type="checkbox"/> <b>CHANGE TUBING</b>	
	<input type="checkbox"/> <b>CHANGE WELL STATUS</b>	
	<input type="checkbox"/> <b>COMMINGLE PRODUCING FORMATIONS</b>	
	<input type="checkbox"/> <b>DEEPEN</b>	
	<input type="checkbox"/> <b>FRACTURE TREAT</b>	
	<input type="checkbox"/> <b>OPERATOR CHANGE</b>	
	<input type="checkbox"/> <b>PLUG AND ABANDON</b>	
	<input type="checkbox"/> <b>PRODUCTION START OR RESUME</b>	
	<input type="checkbox"/> <b>RECLAMATION OF WELL SITE</b>	
	<input type="checkbox"/> <b>REPERFORATE CURRENT FORMATION</b>	
	<input type="checkbox"/> <b>SIDETRACK TO REPAIR WELL</b>	
	<input type="checkbox"/> <b>TUBING REPAIR</b>	
	<input type="checkbox"/> <b>VENT OR FLARE</b>	
	<input type="checkbox"/> <b>WATER SHUTOFF</b>	
	<input type="checkbox"/> <b>SI TA STATUS EXTENSION</b>	
	<input type="checkbox"/> <b>WILDCAT WELL DETERMINATION</b>	
	<input type="checkbox"/> <b>OTHER:</b>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>		
MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL LOCATION ON 12/14/2009 AT 16:30 HRS.		
<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> December 15, 2009		
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/15/2009	



**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: P.O. Box 173779  
city DENVER  
state CO zip 80217 Phone Number: (720) 929-6100

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750346	BONANZA 1023-2G2CS		NWNE	2	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	17429	12/14/2009		12/22/09		
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 12/14/2009 AT 16:30 HRS. <i>BHL = SWNE</i>							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<b>Comments:</b>							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<b>Comments:</b>							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

**RECEIVED**

**DEC 15 2009**

DIV. OF OIL, GAS & MINING

ANDY LYTLE

Name (Please Print)

*[Signature]*  
Signature

REGULATORY ANALYST

Title

12/15/2009

Date



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
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<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-2G2CS
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1230 FNL 1962 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 2 Township: 10.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43047503460000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> <b>ACIDIZE</b>	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> <b>ALTER CASING</b>	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> <b>CASING REPAIR</b>	
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 12/21/2009	<input type="checkbox"/> <b>CHANGE TO PREVIOUS PLANS</b>	
	<input type="checkbox"/> <b>CHANGE TUBING</b>	
	<input type="checkbox"/> <b>CHANGE WELL STATUS</b>	
	<input type="checkbox"/> <b>COMMINGLE PRODUCING FORMATIONS</b>	
	<input type="checkbox"/> <b>DEEPEN</b>	
	<input type="checkbox"/> <b>FRACTURE TREAT</b>	
	<input type="checkbox"/> <b>OPERATOR CHANGE</b>	
	<input type="checkbox"/> <b>PLUG AND ABANDON</b>	
	<input type="checkbox"/> <b>PRODUCTION START OR RESUME</b>	
	<input type="checkbox"/> <b>RECLAMATION OF WELL SITE</b>	
	<input type="checkbox"/> <b>REPERFORATE CURRENT FORMATION</b>	
	<input type="checkbox"/> <b>SIDETRACK TO REPAIR WELL</b>	
	<input type="checkbox"/> <b>TUBING REPAIR</b>	
	<input type="checkbox"/> <b>VENT OR FLARE</b>	
	<input type="checkbox"/> <b>WATER SHUTOFF</b>	
	<input type="checkbox"/> <b>SI TA STATUS EXTENSION</b>	
	<input type="checkbox"/> <b>WILDCAT WELL DETERMINATION</b>	
	<input type="checkbox"/> <b>OTHER</b>	
	OTHER:	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU PROPETRO AIR RIG ON 12/19/2009. DRILLED 12-1/4" SURFACE HOLE TO 1970'. RAN 9-5/8" 36# J-55 SURFACE CSG. PUMP 150 BBLS OF H2O AND 20 BBLS GEL WATER. PUMP 350 SX CLASS G PREM LITE TAIL CMT @ 15.8 PPG, 1.15 YIELD. DROP PLUG ON FLY AND DISPLACE W/146.4 BBLS OF FRESH WATER. 100 PSI OF LIFT. NO RETURNS. BUMP PLUG 600 PSI. TOP OUT #1 W/100 SX CLASS G PREM LITE @ 15.8 PPG, 1.15 YIELD. WAIT 2 HRS AND PUMP TOP OUT #2 W/100 SX SAME CMT. WAIT 1 HR AND PUMP TOP OUT #3 W/100 SX SAME CMT. NO CMT TO SURFACE. WILL REDIMIX WITH PETE MARTIN DRILLING. WORT.		
<b>Accepted by the Utah Division of Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> December 21, 2009		
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/21/2009	



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 47062
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-2G2CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1230 FNL 1962 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 2 Township: 10.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43047503460000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> <b>ACIDIZE</b>	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> <b>CHANGE TO PREVIOUS PLANS</b>	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> <b>CHANGE WELL STATUS</b>	
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 4/9/2010	<input type="checkbox"/> <b>DEEPEN</b>	
	<input type="checkbox"/> <b>OPERATOR CHANGE</b>	
	<input checked="" type="checkbox"/> <b>PRODUCTION START OR RESUME</b>	
	<input type="checkbox"/> <b>REPERFORATE CURRENT FORMATION</b>	
	<input type="checkbox"/> <b>TUBING REPAIR</b>	
	<input type="checkbox"/> <b>WATER SHUTOFF</b>	
	<input type="checkbox"/> <b>WILDCAT WELL DETERMINATION</b>	
	<input type="checkbox"/> <b>ALTER CASING</b>	
	<input type="checkbox"/> <b>CHANGE TUBING</b>	
	<input type="checkbox"/> <b>COMMINGLE PRODUCING FORMATIONS</b>	
	<input type="checkbox"/> <b>FRACTURE TREAT</b>	
	<input type="checkbox"/> <b>PLUG AND ABANDON</b>	
	<input type="checkbox"/> <b>RECLAMATION OF WELL SITE</b>	
	<input type="checkbox"/> <b>SIDETRACK TO REPAIR WELL</b>	
	<input type="checkbox"/> <b>VENT OR FLARE</b>	
	<input type="checkbox"/> <b>SI TA STATUS EXTENSION</b>	
	<input type="checkbox"/> <b>OTHER</b>	
	<input type="checkbox"/> <b>CASING REPAIR</b>	
	<input type="checkbox"/> <b>CHANGE WELL NAME</b>	
	<input type="checkbox"/> <b>CONVERT WELL TYPE</b>	
	<input type="checkbox"/> <b>NEW CONSTRUCTION</b>	
	<input type="checkbox"/> <b>PLUG BACK</b>	
	<input type="checkbox"/> <b>RECOMPLETE DIFFERENT FORMATION</b>	
	<input type="checkbox"/> <b>TEMPORARY ABANDON</b>	
	<input type="checkbox"/> <b>WATER DISPOSAL</b>	
	<input type="checkbox"/> <b>APD EXTENSION</b>	
	OTHER:	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 4/9/2010 AT 1:00 P.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> April 12, 2010		
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/12/2010	



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
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<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-2G2CS
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<b>COUNTY:</b> UTAH		<b>STATE:</b> UTAH
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<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 4/9/2010	OTHER:	
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<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/12/2010	



STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ FORM 8  
(highlight changes)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ OTHER \_\_\_\_\_

b. TYPE OF WORK: NEW WELL ☒ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER \_\_\_\_\_

2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP

3. ADDRESS OF OPERATOR: P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217 PHONE NUMBER: (720) 929-6100

4. LOCATION OF WELL (FOOTAGES): AT SURFACE: NWNE 1230 FNL & 1962 FEL AT TOP PRODUCING INTERVAL REPORTED BELOW: SWNE 1846 FNL & 2406 FEL SEC.2-10S-23E AT TOTAL DEPTH: SWNE 1867 FNL & 2381 FEL SEC.2-10S-23E

5. LEASE DESIGNATION AND SERIAL NUMBER: ML 47062

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT OR CA AGREEMENT NAME

8. WELL NAME and NUMBER: BONANZA 1023-2G2CS

9. API NUMBER: 4304750346

10. FIELD AND POOL, OR WILDCAT: NATURAL BUTTES

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWNE 2 10S 23E

12. COUNTY: Uintah 13. STATE: UTAH

14. DATE SPURRED: 12/14/2009 15. DATE T.D. REACHED: 2/10/2010 16. DATE COMPLETED: 4/9/2010 ABANDONED ☐ READY TO PRODUCE ☒

17. ELEVATIONS (DF, RKB, RT, GL): 5444' GL

18. TOTAL DEPTH: MD 8,260 TVD 8,142 19. PLUG BACK T.D.: MD 8,202 TVD 8,084 20. IF MULTIPLE COMPLETIONS, HOW MANY? \*

21. DEPTH BRIDGE MD PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each): RABL-RPM

23. WAS WELL CORED? NO ☒ YES ☐ (Submit analysis)  
WAS DST RUN? NO ☒ YES ☐ (Submit report)  
DIRECTIONAL SURVEY? NO ☐ YES ☒ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#		40		28			
12 1/4"	9 5/8 J-55	36#		1,954		650			
7 7/8"	4 1/2 I-80	11.6#		8,245		1312			

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	7,588							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) MESAVERDE	6,728	7,986			6,728 7,986	0.36	246	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

27. PERFORATION RECORD

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6,728-7,986	PMP 10,047 BBLS SLICK H2O & 382,168 LBS 30/50 SD.

29. ENCLOSED ATTACHMENTS:

- ☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☒ DIRECTIONAL SURVEY  
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☐ OTHER:

30. WELL STATUS:

PROD

RECEIVED

MAY 04 2010



## 31. INITIAL PRODUCTION

## INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 4/9/2010	TEST DATE: 4/14/2010	HOURS TESTED: 24	TEST PRODUCTION RATES: →	OIL – BBL: 19	GAS – MCF: 1,241	WATER – BBL: 432	PROD. METHOD: FLOWING
CHOKE SIZE: 22/64	TBG. PRESS. 605	CSG. PRESS. 1,285	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS: PROD

## INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## 32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

SOLD

## 33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof. Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER	1,155				
MAHOGANY	1,844				
WASATCH	4,240	6,058			
MESAVERDE	6,058	8,260			

## 35. ADDITIONAL REMARKS (Include plugging procedure)

ATTACHED IS THE CHRONOLOGICAL WELL HISTORY AND FINAL SURVEY.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) ANDY LYTLETITLE REGULATORY ANALYSTSIGNATURE DATE 4/29/2010

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940





# **ANADARKO PETROLEUM CORP.**

**UINTAH COUNTY, UTAH (nad 27)**

**Bonanza 1023-2B Pad**

**Bonanza 1023-2G2CS**

**Bonanza 1023-2G2CS**

**Design: Bonanza 1023-2G2CS**

## **Standard Survey Report**

**29 April, 2010**







WELL DETAILS: Bonanza 1023-2G2CS

+N/-S	+E/-W	Northing	Ground Level:	5442.00	Latitude	Longitude	Slot
0.00	0.00	14524027.14	Easting	2119132.65	39° 58' 54.700 N	109° 17' 28.150 W	

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1923.00	2.69	197.92	1922.09	-41.86	-35.77	0.00	0.00	0.00	54.77	
2055.00	2.69	197.92	2053.95	-47.76	-37.68	0.00	0.00	0.00	60.70	
2771.41	24.05	214.67	2747.00	-185.45	-126.96	3.00	18.71	224.74		
3622.11	24.05	214.67	3523.82	-470.63	-324.22	0.00	0.00	571.50		
4584.31	0.00	0.00	4458.00	-634.32	-437.45	2.50	180.00	770.53		
8246.31	0.00	0.00	8120.00	-634.32	-437.45	0.00	0.00	770.53		PBHL_Bonanza 1023-2G2CS(1865 FNL 2395 FEL)



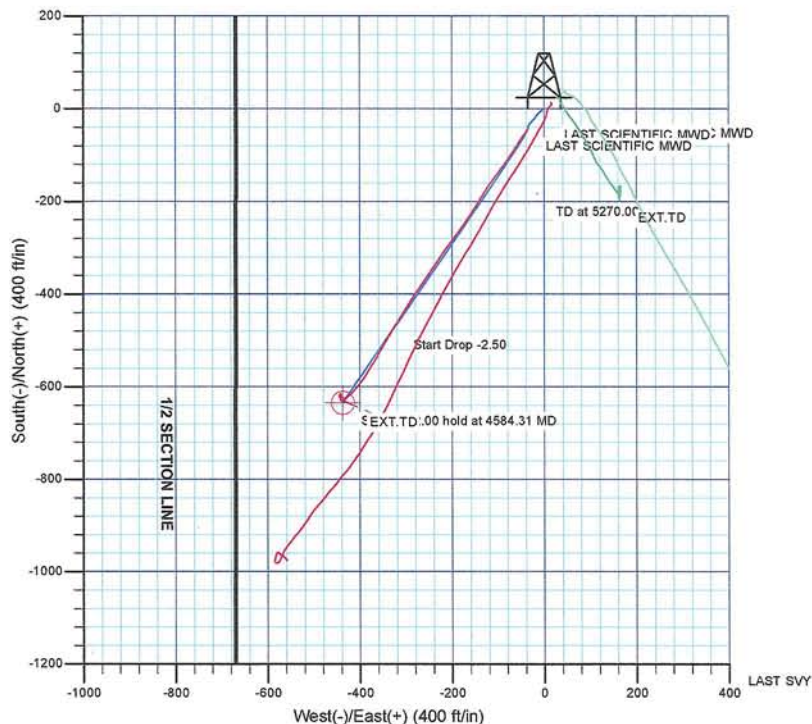
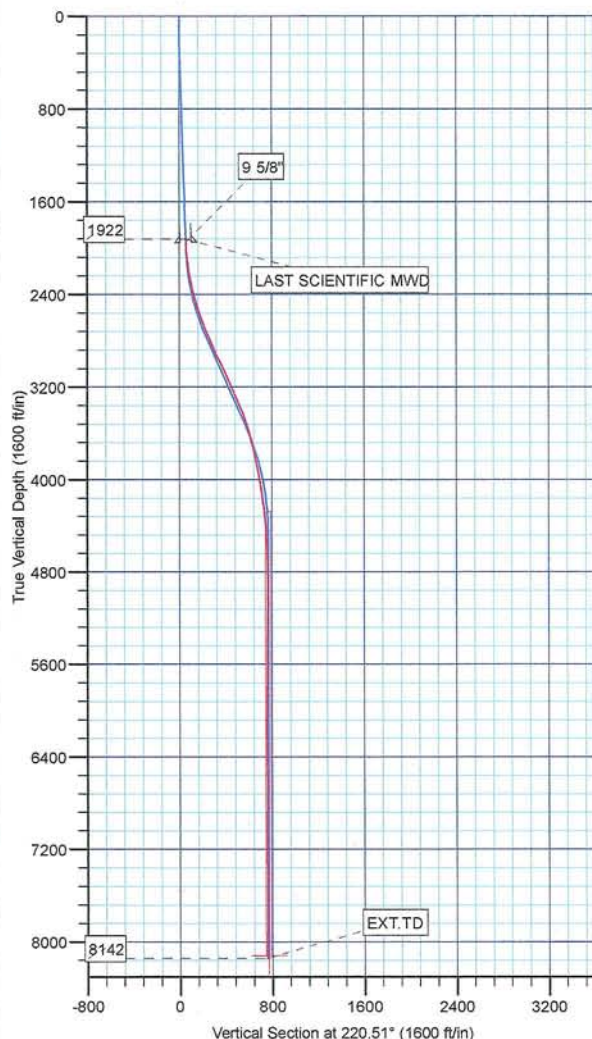
Azimuths to True North  
Magnetic North: 11.18°  
Magnetic Field  
Strength: 52493.2anT  
Dip Angle: 65.95°  
Date: 2/4/2010  
Model: BGM2009



KB @ 5456.00ft  
GRD ELEV: 5442.00

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4278.00	4404.12	WASATCH
7056.00	7182.31	MESAVERDE



WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	8120.00	-634.32	-437.45	39° 58' 48.430 N	109° 17' 33.770 W	Circle (Radius: 25.00)

CASING DETAILS

TVD	MD	Name	Size
1953.56	1954.50	9 5/8"	9.62



**Company:** ANADARKO PETROLEUM CORP.  
**Project:** UINTAH COUNTY, UTAH (nad 27)  
**Site:** Bonanza 1023-2B Pad  
**Well:** Bonanza 1023-2G2CS  
**Wellbore:** Bonanza 1023-2G2CS  
**Design:** Bonanza 1023-2G2CS

**Local Co-ordinate Reference:** Well Bonanza 1023-2G2CS  
**TVD Reference:** KB @ 5456.00ft  
**MD Reference:** KB @ 5456.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

<b>Project</b>	UINTAH COUNTY, UTAH (nad 27),		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

Site	Bonanza 1023-2B Pad, SECTION 2 T10S R23E				
Site Position:		Northing:	14,524,067.50ft	Latitude:	39° 58' 55.090 N
From:	Lat/Long	Easting:	2,119,177.03ft	Longitude:	109° 17' 27.570 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	1.10 °

Well	Bonanza 1023-2G2CS					
Well Position	+N/-S	0.00 ft	Northing:	14,524,027.14 ft	Latitude:	39° 58' 54.700 N
	+E/-W	0.00 ft	Easting:	2,119,132.65 ft	Longitude:	109° 17' 28.150 W
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,442.00 ft	

**Wellbore** Bonanza 1023-2G2CS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	2/4/2010	11.18	65.95	52,493

**Design** Bonanza 1023-2G2CS

### Audit Notes:

<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	220.51	

**Survey Program** Date 4/29/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
153.00	1,923.00	SCIENTIFIC MWD (Bonanza 1023-2G2CS)	MWD	MWD - Standard
1,963.00	8,260.00	Survey #1 (Bonanza 1023-2G2CS)	MWD	MWD - Standard

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	0.52	241.85	153.00	-0.33	-0.61	0.65	0.34	0.34	0.00
243.00	0.61	249.23	242.99	-0.69	-1.42	1.45	0.13	0.10	8.20
333.00	1.36	238.84	332.98	-1.41	-2.78	2.88	0.85	0.83	-11.54
423.00	1.88	227.25	422.94	-2.97	-4.78	5.36	0.68	0.58	-12.88
513.00	1.82	229.58	512.90	-4.90	-6.95	8.24	0.11	-0.07	2.59
603.00	2.06	225.51	602.85	-6.96	-9.19	11.26	0.31	0.27	-4.52
693.00	2.04	226.97	692.79	-9.18	-11.52	14.46	0.06	-0.02	1.62
783.00	2.01	223.06	782.73	-11.43	-13.77	17.63	0.16	-0.03	-4.34
873.00	1.75	212.96	872.68	-13.74	-15.59	20.57	0.47	-0.29	-11.22
963.00	1.59	208.08	962.64	-15.99	-16.93	23.15	0.24	-0.18	-5.42
1,053.00	1.82	218.94	1,052.61	-18.20	-18.41	25.80	0.44	0.26	12.07



**Company:** ANADARKO PETROLEUM CORP.  
**Project:** UINTAH COUNTY, UTAH (nad 27)  
**Site:** Bonanza 1023-2B Pad  
**Well:** Bonanza 1023-2G2CS  
**Wellbore:** Bonanza 1023-2G2CS  
**Design:** Bonanza 1023-2G2CS

**Local Co-ordinate Reference:** Well Bonanza 1023-2G2CS  
**TVD Reference:** KB @ 5456.00ft  
**MD Reference:** KB @ 5456.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,143.00	1.90	220.94	1,142.56	-20.44	-20.29	28.72	0.11	0.09	2.22
1,233.00	1.87	222.70	1,232.51	-22.65	-22.26	31.68	0.07	-0.03	1.96
1,323.00	2.05	221.87	1,322.46	-24.93	-24.33	34.76	0.20	0.20	-0.92
1,413.00	1.89	220.30	1,412.40	-27.26	-26.37	37.85	0.19	-0.18	-1.74
1,503.00	1.65	219.76	1,502.36	-29.39	-28.16	40.63	0.27	-0.27	-0.60
1,593.00	1.85	228.35	1,592.32	-31.35	-30.07	43.37	0.37	0.22	9.54
1,683.00	1.95	212.97	1,682.27	-33.60	-31.99	46.32	0.58	0.11	-17.09
1,803.00	2.04	204.97	1,802.20	-37.25	-34.00	50.41	0.24	0.07	-6.67
<b>LAST SCIENTIFIC MWD</b>									
1,923.00	2.69	197.92	1,922.09	-41.86	-35.77	55.06	0.59	0.54	-5.87
1,963.00	2.56	195.43	1,962.05	-43.62	-36.30	56.74	0.43	-0.32	-6.22
2,008.00	3.38	205.81	2,006.99	-45.78	-37.14	58.93	2.17	1.82	23.07
2,053.00	4.76	209.03	2,051.88	-48.61	-38.62	62.04	3.11	3.07	7.16
2,099.00	6.56	213.93	2,097.65	-52.46	-41.02	66.53	4.05	3.91	10.65
2,144.00	8.25	215.18	2,142.27	-57.23	-44.31	72.29	3.77	3.76	2.78
2,189.00	9.50	214.56	2,186.73	-62.93	-48.28	79.20	2.79	2.78	-1.38
2,235.00	10.50	212.81	2,232.04	-69.57	-52.70	87.13	2.27	2.17	-3.80
2,280.00	11.38	212.43	2,276.22	-76.77	-57.31	95.59	1.96	1.96	-0.84
2,326.00	12.63	214.06	2,321.21	-84.76	-62.56	105.08	2.82	2.72	3.54
2,371.00	13.75	213.18	2,365.02	-93.32	-68.24	115.28	2.53	2.49	-1.96
2,416.00	14.75	212.93	2,408.64	-102.60	-74.28	126.26	2.23	2.22	-0.56
2,462.00	15.69	214.18	2,453.02	-112.66	-80.96	138.25	2.16	2.04	2.72
2,507.00	16.81	216.68	2,496.23	-122.91	-88.26	150.79	2.93	2.49	5.56
2,552.00	18.38	217.81	2,539.12	-133.74	-96.50	164.37	3.57	3.49	2.51
2,598.00	19.06	216.43	2,582.69	-145.51	-105.41	179.10	1.76	1.48	-3.00
2,643.00	19.94	215.68	2,625.10	-157.66	-114.25	194.08	2.03	1.96	-1.67
2,688.00	20.75	214.56	2,667.30	-170.46	-123.24	209.65	2.00	1.80	-2.49
2,734.00	22.13	212.81	2,710.11	-184.45	-132.56	226.34	3.31	3.00	-3.80
2,779.00	24.25	210.68	2,751.48	-199.52	-141.87	243.85	5.07	4.71	-4.73
2,870.00	24.88	213.93	2,834.24	-231.48	-162.09	281.28	1.64	0.69	3.57
2,960.00	25.19	216.18	2,915.79	-262.65	-183.97	319.19	1.11	0.34	2.50
3,051.00	26.13	216.43	2,997.81	-294.40	-207.30	358.49	1.04	1.03	0.27
3,142.00	24.31	213.93	3,080.14	-326.07	-229.66	397.09	2.32	-2.00	-2.75
3,233.00	23.81	215.18	3,163.23	-356.63	-250.70	433.99	0.78	-0.55	1.37
3,323.00	24.37	213.87	3,245.39	-386.89	-271.51	470.52	0.86	0.62	-1.46
3,414.00	23.44	212.18	3,328.59	-417.80	-291.61	507.08	1.27	-1.02	-1.86
3,504.00	22.31	212.81	3,411.51	-447.31	-310.41	541.72	1.28	-1.26	0.70
3,595.00	19.38	212.18	3,496.54	-474.61	-327.81	573.78	3.23	-3.22	-0.69
3,686.00	15.44	208.68	3,583.36	-498.03	-341.67	600.59	4.48	-4.33	-3.85
3,776.00	13.94	210.93	3,670.42	-517.84	-352.99	623.00	1.78	-1.67	2.50
3,867.00	12.69	208.06	3,758.97	-536.06	-363.33	643.57	1.55	-1.37	-3.15
3,957.00	12.50	213.31	3,846.81	-552.93	-373.33	662.89	1.29	-0.21	5.83
4,048.00	11.06	211.20	3,935.89	-568.62	-383.26	681.27	1.65	-1.58	-2.32
4,138.00	9.75	215.18	4,024.41	-582.24	-392.12	697.38	1.66	-1.46	4.42
4,229.00	8.63	220.31	4,114.24	-593.74	-400.98	711.88	1.52	-1.23	5.64
4,320.00	7.69	218.68	4,204.32	-603.70	-409.20	724.79	1.06	-1.03	-1.79
4,410.00	6.44	221.93	4,293.63	-612.16	-416.34	735.86	1.46	-1.39	3.61
4,501.00	5.00	230.43	4,384.18	-618.48	-422.80	744.87	1.83	-1.58	9.34
4,592.00	3.50	234.81	4,474.93	-622.61	-428.13	751.47	1.69	-1.65	4.81
4,682.00	2.44	240.18	4,564.80	-625.14	-432.04	755.93	1.22	-1.18	5.97
4,773.00	2.13	226.81	4,655.73	-627.27	-434.95	759.44	0.68	-0.34	-14.69
4,863.00	2.06	215.31	4,745.67	-629.73	-437.11	762.71	0.47	-0.08	-12.78
4,954.00	1.19	282.06	4,836.64	-630.87	-438.98	764.79	2.12	-0.96	73.35
5,045.00	0.94	270.18	4,927.63	-630.67	-440.65	765.72	0.37	-0.27	-13.05



**Company:** ANADARKO PETROLEUM CORP.  
**Project:** UINTAH COUNTY, UTAH (nad 27)  
**Site:** Bonanza 1023-2B Pad  
**Well:** Bonanza 1023-2G2CS  
**Wellbore:** Bonanza 1023-2G2CS  
**Design:** Bonanza 1023-2G2CS

**Local Co-ordinate Reference:** Well Bonanza 1023-2G2CS  
**TVD Reference:** KB @ 5456.00ft  
**MD Reference:** KB @ 5456.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,135.00	0.75	341.43	5,017.62	-630.11	-441.57	765.90	1.11	-0.21	79.17
5,226.00	2.25	346.68	5,108.58	-627.80	-442.17	764.54	1.65	1.65	5.77
5,317.00	1.81	339.43	5,199.53	-624.72	-443.09	762.79	0.56	-0.48	-7.97
5,408.00	0.99	330.97	5,290.50	-622.69	-443.98	761.82	0.93	-0.90	-9.30
5,498.00	0.63	329.81	5,380.49	-621.58	-444.60	761.38	0.40	-0.40	-1.29
5,589.00	0.31	328.06	5,471.49	-620.94	-444.98	761.15	0.35	-0.35	-1.92
5,680.00	0.25	295.31	5,562.49	-620.64	-445.29	761.12	0.18	-0.07	-35.99
5,770.00	1.31	18.43	5,652.48	-619.58	-445.15	760.22	1.45	1.18	92.36
5,861.00	0.88	25.93	5,743.46	-617.97	-444.51	758.58	0.50	-0.47	8.24
5,952.00	0.75	14.43	5,834.45	-616.76	-444.06	757.37	0.23	-0.14	-12.64
6,042.00	0.56	8.43	5,924.45	-615.76	-443.85	756.47	0.22	-0.21	-6.67
6,133.00	0.50	35.43	6,015.44	-614.99	-443.55	755.70	0.28	-0.07	29.67
6,223.00	0.25	75.56	6,105.44	-614.63	-443.13	755.14	0.39	-0.28	44.59
6,314.00	0.25	184.51	6,196.44	-614.77	-442.96	755.14	0.45	0.00	119.73
6,405.00	0.50	160.56	6,287.44	-615.35	-442.84	755.50	0.32	0.27	-26.32
6,496.00	0.88	156.18	6,378.43	-616.36	-442.43	756.00	0.42	0.42	-4.81
6,586.00	1.19	155.43	6,468.42	-617.84	-441.76	756.70	0.34	0.34	-0.83
6,677.00	1.31	162.43	6,559.39	-619.69	-441.05	757.64	0.21	0.13	7.69
6,767.00	1.56	154.93	6,649.37	-621.78	-440.22	758.69	0.35	0.28	-8.33
6,858.00	0.69	132.93	6,740.35	-623.28	-439.30	759.23	1.05	-0.96	-24.18
6,949.00	0.44	43.68	6,831.35	-623.40	-438.65	758.90	0.89	-0.27	-98.08
7,039.00	0.31	47.06	6,921.34	-622.98	-438.24	758.32	0.15	-0.14	3.76
7,130.00	0.19	60.31	7,012.34	-622.74	-437.92	757.93	0.15	-0.13	14.56
7,221.00	0.38	145.43	7,103.34	-622.92	-437.62	757.87	0.45	0.21	93.54
7,311.00	0.38	143.11	7,193.34	-623.40	-437.27	758.01	0.02	0.00	-2.58
7,402.00	0.52	156.35	7,284.34	-624.02	-436.93	758.25	0.19	0.15	14.55
7,493.00	0.81	181.81	7,375.33	-625.04	-436.78	758.94	0.45	0.32	27.98
7,583.00	1.13	161.68	7,465.32	-626.52	-436.52	759.89	0.51	0.36	-22.37
7,674.00	1.44	151.18	7,556.29	-628.37	-435.69	760.76	0.43	0.34	-11.54
7,765.00	1.94	132.31	7,647.26	-630.41	-434.00	761.21	0.82	0.55	-20.74
7,855.00	1.94	120.68	7,737.20	-632.21	-431.56	761.00	0.44	0.00	-12.92
7,946.00	1.94	115.81	7,828.15	-633.67	-428.85	760.34	0.18	0.00	-5.35
8,037.00	1.75	107.93	7,919.11	-634.77	-426.14	759.42	0.35	-0.21	-8.66
8,127.00	2.00	109.18	8,009.06	-635.71	-423.35	758.32	0.28	0.28	1.39
8,210.00	2.03	112.06	8,092.01	-636.74	-420.62	757.33	0.13	0.04	3.47
EXT.TD									
8,260.00	2.03	112.06	8,141.97	-637.40	-418.98	756.77	0.00	0.00	0.00

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,923.00	1,922.09	-41.86	-35.77	LAST SCIENTIFIC MWD
8,260.00	8,141.97	-637.40	-418.98	EXT.TD

Checked By: _____	Approved By: _____	Date: _____
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# **ANADARKO PETROLEUM CORP.**

**UINTAH COUNTY, UTAH (nad 27)**

**Bonanza 1023-2B Pad**

**Bonanza 1023-2G2CS**

**Bonanza 1023-2G2CS**

**Design: Bonanza 1023-2G2CS**

## **Survey Report - Geographic**

**29 April, 2010**





<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well Bonanza 1023-2G2CS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	KB @ 5456.00ft
<b>Site:</b>	Bonanza 1023-2B Pad	<b>MD Reference:</b>	KB @ 5456.00ft
<b>Well:</b>	Bonanza 1023-2G2CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	Bonanza 1023-2G2CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Bonanza 1023-2G2CS	<b>Database:</b>	EDM 2003.21 Single User Db

<b>Project</b>	UINTAH COUNTY, UTAH (nad 27),		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	Bonanza 1023-2B Pad, SECTION 2 T10S R23E				
<b>Site Position:</b>		<b>Northing:</b>	14,524,067.50 ft	<b>Latitude:</b>	39° 58' 55.090 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,119,177.03 ft	<b>Longitude:</b>	109° 17' 27.570 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in	<b>Grid Convergence:</b>	1.10 °

<b>Well</b>	Bonanza 1023-2G2CS					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,524,027.14 ft	<b>Latitude:</b>	39° 58' 54.700 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,119,132.65 ft	<b>Longitude:</b>	109° 17' 28.150 W
<b>Position Uncertainty</b>	0.00 ft		<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,442.00 ft

<b>Wellbore</b>	Bonanza 1023-2G2CS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2009	2/4/2010	11.18	65.95	52,493

<b>Design</b>	Bonanza 1023-2G2CS				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	220.51	

<b>Survey Program</b>	<b>Date</b>	4/29/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
153.00	1,923.00	SCIENTIFIC MWD (Bonanza 1023-2G2CS)	MWD	MWD - Standard	
1,963.00	8,260.00	Survey #1 (Bonanza 1023-2G2CS)	MWD	MWD - Standard	



**Company:** ANADARKO PETROLEUM CORP.  
**Project:** Uintah County, Utah (nad 27)  
**Site:** Bonanza 1023-2B Pad  
**Well:** Bonanza 1023-2G2CS  
**Wellbore:** Bonanza 1023-2G2CS  
**Design:** Bonanza 1023-2G2CS

**Local Co-ordinate Reference:** Well Bonanza 1023-2G2CS  
**TVD Reference:** KB @ 5456.00ft  
**MD Reference:** KB @ 5456.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,524,027.14	2,119,132.65	39° 58' 54.700 N	109° 17' 28.150 W
153.00	0.52	241.85	153.00	-0.33	-0.61	14,524,026.80	2,119,132.04	39° 58' 54.696 N	109° 17' 28.158 W
243.00	0.61	249.23	242.99	-0.69	-1.42	14,524,026.42	2,119,131.24	39° 58' 54.693 N	109° 17' 28.168 W
333.00	1.36	238.84	332.98	-1.41	-2.78	14,524,025.67	2,119,129.90	39° 58' 54.686 N	109° 17' 28.186 W
423.00	1.88	227.25	422.94	-2.97	-4.78	14,524,024.08	2,119,127.93	39° 58' 54.670 N	109° 17' 28.211 W
513.00	1.82	229.58	512.90	-4.90	-6.95	14,524,022.11	2,119,125.79	39° 58' 54.651 N	109° 17' 28.239 W
603.00	2.06	225.51	602.85	-6.96	-9.19	14,524,020.01	2,119,123.59	39° 58' 54.631 N	109° 17' 28.268 W
693.00	2.04	226.97	692.79	-9.18	-11.52	14,524,017.74	2,119,121.31	39° 58' 54.609 N	109° 17' 28.298 W
783.00	2.01	223.06	782.73	-11.43	-13.77	14,524,015.45	2,119,119.10	39° 58' 54.587 N	109° 17' 28.327 W
873.00	1.75	212.96	872.68	-13.74	-15.59	14,524,013.11	2,119,117.32	39° 58' 54.564 N	109° 17' 28.350 W
963.00	1.59	208.08	962.64	-15.99	-16.93	14,524,010.83	2,119,116.03	39° 58' 54.542 N	109° 17' 28.367 W
1,053.00	1.82	218.94	1,052.61	-18.20	-18.41	14,524,008.59	2,119,114.59	39° 58' 54.520 N	109° 17' 28.387 W
1,143.00	1.90	220.94	1,142.56	-20.44	-20.29	14,524,006.31	2,119,112.76	39° 58' 54.498 N	109° 17' 28.411 W
1,233.00	1.87	222.70	1,232.51	-22.65	-22.26	14,524,004.07	2,119,110.83	39° 58' 54.476 N	109° 17' 28.436 W
1,323.00	2.05	221.87	1,322.46	-24.93	-24.33	14,524,001.75	2,119,108.80	39° 58' 54.453 N	109° 17' 28.463 W
1,413.00	1.89	220.30	1,412.40	-27.26	-26.37	14,523,999.38	2,119,106.81	39° 58' 54.430 N	109° 17' 28.489 W
1,503.00	1.65	219.76	1,502.36	-29.39	-28.16	14,523,997.22	2,119,105.06	39° 58' 54.409 N	109° 17' 28.512 W
1,593.00	1.85	228.35	1,592.32	-31.35	-30.07	14,523,995.22	2,119,103.19	39° 58' 54.390 N	109° 17' 28.536 W
1,683.00	1.95	212.97	1,682.27	-33.60	-31.99	14,523,992.94	2,119,101.31	39° 58' 54.368 N	109° 17' 28.561 W
1,803.00	2.04	204.97	1,802.20	-37.25	-34.00	14,523,989.25	2,119,099.37	39° 58' 54.331 N	109° 17' 28.587 W
<b>LAST SCIENTIFIC MWD</b>									
1,923.00	2.69	197.92	1,922.09	-41.86	-35.77	14,523,984.60	2,119,097.69	39° 58' 54.286 N	109° 17' 28.610 W
1,963.00	2.56	195.43	1,962.05	-43.62	-36.30	14,523,982.84	2,119,097.20	39° 58' 54.268 N	109° 17' 28.616 W
2,008.00	3.38	205.81	2,006.99	-45.78	-37.14	14,523,980.66	2,119,096.39	39° 58' 54.247 N	109° 17' 28.627 W
2,053.00	4.76	209.03	2,051.88	-48.61	-38.62	14,523,977.80	2,119,094.96	39° 58' 54.219 N	109° 17' 28.646 W
2,099.00	6.56	213.93	2,097.65	-52.46	-41.02	14,523,973.91	2,119,092.65	39° 58' 54.181 N	109° 17' 28.677 W
2,144.00	8.25	215.18	2,142.27	-57.23	-44.31	14,523,969.07	2,119,089.44	39° 58' 54.134 N	109° 17' 28.719 W
2,189.00	9.50	214.56	2,186.73	-62.93	-48.28	14,523,963.30	2,119,085.59	39° 58' 54.078 N	109° 17' 28.770 W
2,235.00	10.50	212.81	2,232.04	-69.57	-52.70	14,523,956.57	2,119,081.29	39° 58' 54.012 N	109° 17' 28.827 W
2,280.00	11.38	212.43	2,276.22	-76.77	-57.31	14,523,949.29	2,119,076.82	39° 58' 53.941 N	109° 17' 28.886 W
2,326.00	12.63	214.06	2,321.21	-84.76	-62.56	14,523,941.19	2,119,071.73	39° 58' 53.862 N	109° 17' 28.954 W
2,371.00	13.75	213.18	2,365.02	-93.32	-68.24	14,523,932.53	2,119,066.21	39° 58' 53.777 N	109° 17' 29.027 W
2,416.00	14.75	212.93	2,408.64	-102.60	-74.28	14,523,923.13	2,119,060.35	39° 58' 53.685 N	109° 17' 29.104 W
2,462.00	15.69	214.18	2,453.02	-112.66	-80.96	14,523,912.95	2,119,053.87	39° 58' 53.586 N	109° 17' 29.190 W
2,507.00	16.81	216.68	2,496.23	-122.91	-88.26	14,523,902.56	2,119,046.76	39° 58' 53.485 N	109° 17' 29.284 W
2,552.00	18.38	217.81	2,539.12	-133.74	-96.50	14,523,891.58	2,119,038.73	39° 58' 53.378 N	109° 17' 29.390 W
2,598.00	19.06	216.43	2,582.69	-145.51	-105.41	14,523,879.63	2,119,030.05	39° 58' 53.261 N	109° 17' 29.504 W
2,643.00	19.94	215.68	2,625.10	-157.66	-114.25	14,523,867.32	2,119,021.45	39° 58' 53.141 N	109° 17' 29.618 W
2,688.00	20.75	214.56	2,667.30	-170.46	-123.24	14,523,854.35	2,119,012.70	39° 58' 53.015 N	109° 17' 29.733 W
2,734.00	22.13	212.81	2,710.11	-184.45	-132.56	14,523,840.18	2,119,003.65	39° 58' 52.877 N	109° 17' 29.853 W
2,779.00	24.25	210.68	2,751.48	-199.52	-141.87	14,523,824.94	2,118,994.63	39° 58' 52.728 N	109° 17' 29.973 W
2,870.00	24.88	213.93	2,834.24	-231.48	-162.09	14,523,792.60	2,118,975.02	39° 58' 52.412 N	109° 17' 30.232 W
2,960.00	25.19	216.18	2,915.79	-262.65	-183.97	14,523,761.01	2,118,953.75	39° 58' 52.104 N	109° 17' 30.514 W
3,051.00	26.13	216.43	2,997.81	-294.40	-207.30	14,523,728.82	2,118,931.03	39° 58' 51.790 N	109° 17' 30.813 W
3,142.00	24.31	213.93	3,080.14	-326.07	-229.66	14,523,696.73	2,118,909.29	39° 58' 51.477 N	109° 17' 31.101 W
3,233.00	23.81	215.18	3,163.23	-356.63	-250.70	14,523,665.77	2,118,888.84	39° 58' 51.175 N	109° 17' 31.371 W
3,323.00	24.37	213.87	3,245.39	-386.89	-271.51	14,523,635.11	2,118,868.60	39° 58' 50.876 N	109° 17' 31.638 W
3,414.00	23.44	212.18	3,328.59	-417.80	-291.61	14,523,603.83	2,118,849.10	39° 58' 50.570 N	109° 17' 31.896 W
3,504.00	22.31	212.81	3,411.51	-447.31	-310.41	14,523,573.96	2,118,830.88	39° 58' 50.278 N	109° 17' 32.138 W
3,595.00	19.38	212.18	3,496.54	-474.61	-327.81	14,523,546.33	2,118,814.00	39° 58' 50.009 N	109° 17' 32.361 W
3,686.00	15.44	208.68	3,583.36	-498.03	-341.67	14,523,522.65	2,118,800.59	39° 58' 49.777 N	109° 17' 32.540 W
3,776.00	13.94	210.93	3,670.42	-517.84	-352.99	14,523,502.63	2,118,789.65	39° 58' 49.581 N	109° 17' 32.685 W
3,867.00	12.69	208.06	3,758.97	-536.06	-363.33	14,523,484.21	2,118,779.66	39° 58' 49.401 N	109° 17' 32.818 W
3,957.00	12.50	213.31	3,846.81	-552.93	-373.33	14,523,467.16	2,118,769.99	39° 58' 49.234 N	109° 17' 32.946 W
4,048.00	11.06	211.20	3,935.89	-568.62	-383.26	14,523,451.28	2,118,760.36	39° 58' 49.079 N	109° 17' 33.074 W



**Company:** ANADARKO PETROLEUM CORP.  
**Project:** UINTAH COUNTY, UTAH (nad 27)  
**Site:** Bonanza 1023-2B Pad  
**Well:** Bonanza 1023-2G2CS  
**Wellbore:** Bonanza 1023-2G2CS  
**Design:** Bonanza 1023-2G2CS

**Local Co-ordinate Reference:** Well Bonanza 1023-2G2CS  
**TVD Reference:** KB @ 5456.00ft  
**MD Reference:** KB @ 5456.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
4,138.00	9.75	215.18	4,024.41	-582.24	-392.12	14,523,437.49	2,118,751.76	39° 58' 48.945 N	109° 17' 33.188 W
4,229.00	8.63	220.31	4,114.24	-593.74	-400.98	14,523,425.82	2,118,743.13	39° 58' 48.831 N	109° 17' 33.301 W
4,320.00	7.69	218.68	4,204.32	-603.70	-409.20	14,523,415.71	2,118,735.10	39° 58' 48.733 N	109° 17' 33.407 W
4,410.00	6.44	221.93	4,293.63	-612.16	-416.34	14,523,407.12	2,118,728.12	39° 58' 48.649 N	109° 17' 33.499 W
4,501.00	5.00	230.43	4,384.18	-618.48	-422.80	14,523,400.67	2,118,721.78	39° 58' 48.587 N	109° 17' 33.582 W
4,592.00	3.50	234.81	4,474.93	-622.61	-428.13	14,523,396.44	2,118,716.53	39° 58' 48.546 N	109° 17' 33.650 W
4,682.00	2.44	240.18	4,564.80	-625.14	-432.04	14,523,393.83	2,118,712.67	39° 58' 48.521 N	109° 17' 33.701 W
4,773.00	2.13	226.81	4,655.73	-627.27	-434.95	14,523,391.65	2,118,709.80	39° 58' 48.500 N	109° 17' 33.738 W
4,863.00	2.06	215.31	4,745.67	-629.73	-437.11	14,523,389.15	2,118,707.70	39° 58' 48.475 N	109° 17' 33.766 W
4,954.00	1.19	282.06	4,836.64	-630.87	-438.98	14,523,387.98	2,118,705.85	39° 58' 48.464 N	109° 17' 33.790 W
5,045.00	0.94	270.18	4,927.63	-630.67	-440.65	14,523,388.14	2,118,704.17	39° 58' 48.466 N	109° 17' 33.811 W
5,135.00	0.75	341.43	5,017.62	-630.11	-441.57	14,523,388.69	2,118,703.24	39° 58' 48.472 N	109° 17' 33.823 W
5,226.00	2.25	346.68	5,108.58	-627.80	-442.17	14,523,390.98	2,118,702.59	39° 58' 48.494 N	109° 17' 33.831 W
5,317.00	1.81	339.43	5,199.53	-624.72	-443.09	14,523,394.04	2,118,701.62	39° 58' 48.525 N	109° 17' 33.843 W
5,408.00	0.99	330.97	5,290.50	-622.69	-443.98	14,523,396.06	2,118,700.69	39° 58' 48.545 N	109° 17' 33.854 W
5,498.00	0.63	329.81	5,380.49	-621.58	-444.60	14,523,397.15	2,118,700.04	39° 58' 48.556 N	109° 17' 33.862 W
5,589.00	0.31	328.06	5,471.49	-620.94	-444.98	14,523,397.79	2,118,699.65	39° 58' 48.562 N	109° 17' 33.867 W
5,680.00	0.25	295.31	5,562.49	-620.64	-445.29	14,523,398.08	2,118,699.33	39° 58' 48.565 N	109° 17' 33.871 W
5,770.00	1.31	18.43	5,652.48	-619.58	-445.15	14,523,399.14	2,118,699.46	39° 58' 48.576 N	109° 17' 33.869 W
5,861.00	0.88	25.93	5,743.46	-617.97	-444.51	14,523,400.77	2,118,700.07	39° 58' 48.592 N	109° 17' 33.861 W
5,952.00	0.75	14.43	5,834.45	-616.76	-444.06	14,523,401.98	2,118,700.50	39° 58' 48.604 N	109° 17' 33.855 W
6,042.00	0.56	8.43	5,924.45	-615.76	-443.85	14,523,402.99	2,118,700.69	39° 58' 48.613 N	109° 17' 33.852 W
6,133.00	0.50	35.43	6,015.44	-614.99	-443.55	14,523,403.76	2,118,700.97	39° 58' 48.621 N	109° 17' 33.848 W
6,223.00	0.25	75.56	6,105.44	-614.63	-443.13	14,523,404.13	2,118,701.38	39° 58' 48.625 N	109° 17' 33.843 W
6,314.00	0.25	184.51	6,196.44	-614.77	-442.96	14,523,403.99	2,118,701.56	39° 58' 48.623 N	109° 17' 33.841 W
6,405.00	0.50	160.56	6,287.44	-615.35	-442.84	14,523,403.42	2,118,701.69	39° 58' 48.618 N	109° 17' 33.839 W
6,496.00	0.88	156.18	6,378.43	-616.36	-442.43	14,523,402.41	2,118,702.12	39° 58' 48.608 N	109° 17' 33.834 W
6,586.00	1.19	155.43	6,468.42	-617.84	-441.76	14,523,400.94	2,118,702.82	39° 58' 48.593 N	109° 17' 33.825 W
6,677.00	1.31	162.43	6,559.39	-619.69	-441.05	14,523,399.11	2,118,703.56	39° 58' 48.575 N	109° 17' 33.816 W
6,767.00	1.56	154.93	6,649.37	-621.78	-440.22	14,523,397.03	2,118,704.43	39° 58' 48.554 N	109° 17' 33.806 W
6,858.00	0.69	132.93	6,740.35	-623.28	-439.30	14,523,395.56	2,118,705.38	39° 58' 48.539 N	109° 17' 33.794 W
6,949.00	0.44	43.68	6,831.35	-623.40	-438.65	14,523,395.45	2,118,706.03	39° 58' 48.538 N	109° 17' 33.786 W
7,039.00	0.31	47.06	6,921.34	-622.98	-438.24	14,523,395.87	2,118,706.44	39° 58' 48.542 N	109° 17' 33.780 W
7,130.00	0.19	60.31	7,012.34	-622.74	-437.92	14,523,396.12	2,118,706.74	39° 58' 48.544 N	109° 17' 33.776 W
7,221.00	0.38	145.43	7,103.34	-622.92	-437.62	14,523,395.95	2,118,707.05	39° 58' 48.543 N	109° 17' 33.772 W
7,311.00	0.38	143.11	7,193.34	-623.40	-437.27	14,523,395.47	2,118,707.41	39° 58' 48.538 N	109° 17' 33.768 W
7,402.00	0.52	156.35	7,284.34	-624.02	-436.93	14,523,394.86	2,118,707.76	39° 58' 48.532 N	109° 17' 33.763 W
7,493.00	0.81	181.81	7,375.33	-625.04	-436.78	14,523,393.84	2,118,707.93	39° 58' 48.522 N	109° 17' 33.761 W
7,583.00	1.13	161.68	7,465.32	-626.52	-436.52	14,523,392.37	2,118,708.22	39° 58' 48.507 N	109° 17' 33.758 W
7,674.00	1.44	151.18	7,556.29	-628.37	-435.69	14,523,390.53	2,118,709.09	39° 58' 48.489 N	109° 17' 33.747 W
7,765.00	1.94	132.31	7,647.26	-630.41	-434.00	14,523,388.53	2,118,710.81	39° 58' 48.469 N	109° 17' 33.726 W
7,855.00	1.94	120.68	7,737.20	-632.21	-431.56	14,523,386.77	2,118,713.29	39° 58' 48.451 N	109° 17' 33.694 W
7,946.00	1.94	115.81	7,828.15	-633.67	-428.85	14,523,385.37	2,118,716.02	39° 58' 48.436 N	109° 17' 33.660 W
8,037.00	1.75	107.93	7,919.11	-634.77	-426.14	14,523,384.32	2,118,718.75	39° 58' 48.426 N	109° 17' 33.625 W
8,127.00	2.00	109.18	8,009.06	-635.71	-423.35	14,523,383.44	2,118,721.56	39° 58' 48.416 N	109° 17' 33.589 W
8,210.00	2.03	112.06	8,092.01	-636.74	-420.62	14,523,382.46	2,118,724.31	39° 58' 48.406 N	109° 17' 33.554 W
EXT.TD									
8,260.00	2.03	112.06	8,141.97	-637.40	-418.98	14,523,381.83	2,118,725.96	39° 58' 48.400 N	109° 17' 33.533 W





Weatherford International Ltd.  
Survey Report - Geographic



**Company:** ANADARKO PETROLEUM CORP.  
**Project:** UINTAH COUNTY, UTAH (nad 27)  
**Site:** Bonanza 1023-2B Pad  
**Well:** Bonanza 1023-2G2CS  
**Wellbore:** Bonanza 1023-2G2CS  
**Design:** Bonanza 1023-2G2CS

**Local Co-ordinate Reference:** Well Bonanza 1023-2G2CS  
**TVD Reference:** KB @ 5456.00ft  
**MD Reference:** KB @ 5456.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,923.00	1,922.09	-41.86	-35.77	LAST SCIENTIFIC MWD
8,260.00	8,141.97	-637.40	-418.98	EXT.TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



# US ROCKIES REGION

## Operation Summary Report

Well: BONANZA 1023-2G2CS [RED]	Spud Conductor: 12/14/2009	Spud Date: 12/19/2009
Project: UTAH-UINTAH	Site: BONANZA 1023-2B PAD	Rig Name No: ENSIGN 146/146, PROPETRO/
Event: DRILLING	Start Date: 12/14/2009	End Date: 2/11/2010
Active Datum: RKB @5,458.00ft (above Mean Sea Level)	UWI: NW/NE/0/10/S/23/E/2/0/0/26/PM/N/1,230.00/E/0/1,962.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
12/19/2009	15:00 - 17:30	2.50	MIRU	01	B	P		DRESS CONDUCTOR, INSTALL AIR BOWL, RIG UP BOWIE LINE, RIG UP RIG., BUILD DITCH, RIG UP PUMPS, DOG HOUSE, AIR COMPRESSOR AND BOOSTER. P/U MOTOR AND 12-1/4" Q507 SN 7018337 4TH RUN.
	17:30 - 18:30	1.00	DRLSUR	02	B	P		DRILL W/ MOTOR 44'- 150'
	18:30 - 20:00	1.50	DRLSUR	06	A	P		LD 6" DC'S AND SCRIBE MOTOR, P/U SCIENTIFIC DIRECTIONAL TOOLS.
	20:00 - 0:00	4.00	DRLSUR	02	B	P		DRILL W/ MWD 150'- 690' (540', 135'/HR) WOB 20K, ROT 45, GPM 650, DH ROT 104, PSI 900/1200, UP/DOWN//ROT 55/55/55.
12/20/2009	0:00 - 8:00	8.00	DRLSUR	02	D	P		DRILL W/ MWD 690'-1550'. (860', 107.5) WOB 20K, ROT 45, GPM 650, DH ROT 104, PSI 1100/1400, UP/DOWN//ROT 61/61/61 LOSS ZONE @ 1500'.
	8:00 - 10:00	2.00	MAINT	08	B	Z		THAW BOOTER, CHANGE OUT BOOSTER HOSE. BOOSTER HOSE WAS FROZEN.
	10:00 - 15:00	5.00	DRLPRO	02	D	P		DRILL W/ MWD 1550'-1970' ( 420, 84'/HR) TD 12/20/2009 15:00 WOB 20K, ROT 45, GPM 650, DH ROT 104, PSI 1200/1500, UP/DOWN//ROT 66/66/66 LOSS ZONE @ 1500', AERATE AND PUMP 5 BBLS AND HR TO MAINTAIN CIRC.
	15:00 - 17:00	2.00	CSG	05	F	P		CLEAN HOLE AND AERATE W/ 2 BBLS OF WATER TO GAIN VOLUME IN PIT. PIT VOLUME 45%.
	17:00 - 21:00	4.00	CSG	06	D	P		LAY DOWN DRILL STRING, LD DIRECTIONAL TOOLS, BREAK SLOT SUB OFF MOTOR AND BIT OFF MOTOR.
	21:00 - 0:00	3.00	CSG	12	C	P		RUN 45 JTS OF 9-5/8" 36# J-55 W/ 8RD LTC THREADS. LAND SHOE FLOAT @ 1944' KB, BAFFLE PLATE RAN IN TOP OF SHOE JT @ 1899' KB. FILL CSG 800'.
12/21/2009	0:00 - 1:00	1.00	RDMO	01	E	P		RIG DOWN, READY TRUCK FOR ROAD.
	1:00 - 6:00	5.00	CSG	12	E	P		RELEASE RIG 12/21/2009 01:00 HOLD SAFETY MEETING AND PSI TEST 2000. PUMP 150 BBLS OF H2O, PUMP 20 BBLS OF GEL WATER. PUMP 350 SX (72 BBLS) OF 15.8#, 1.15 YD, 5 GAL/SK TAIL CEMENT. DROP PLUG ON FLY, DISPLACE W/ 146.4 BBLS OF FRESH WATER. 100 PSI OF LIFT. NO RETURNS. BUMP PLUG 600 PSI. TOP OUT 100 SX( 20.4 BBLS) OF 15.8#, 1.15 YD, 5 GAL/SK 4% CALC CEMENT. WAIT 2 HRS PUMP 100 SX(20.4 BBLS) OF SAME CEMENT. CEMENT. WAIT 1 HOUR PUMP 100 SX (20.4 BBLS) OF SAME CEMENT. NO CEMENT TO SURFACE. WILL REDIMIX WITH PETE MARTIN DRILLING.
2/7/2010	13:00 - 15:00	2.00	MIRU	01	C	P		RDRT - SKID RIG - RURT
	15:00 - 17:00	2.00	DRLPRO	14	A	P		N/UP BOPE
	17:00 - 22:00	5.00	DRLPRO	15	A	P		TEST BOP - RAMS, BLINDS, CHOKE, CHOKE LINE, MANUAL VALVES, FLOOR VALVES & IBOP, 250 LOW 5000 HIGH, ANNULAR 250 LOW 2500 HIGH, CASING 1500
	22:00 - 22:30	0.50	DRLPRO	14	B	P		SET WEARBUSHING
	22:30 - 0:00	1.50	DRLPRO	06	A	P		P/UP DIRECTIONAL BHA - SCRIBE & ORIENT SAME - RIH TO 1200'
2/8/2010	0:00 - 0:30	0.50	DRLPRO	06	A	P		RIH F/1200' TO 1849' - TAG CMT @ 1849'
	0:30 - 1:00	0.50	DRLPRO	07	B	P		INSTALL ROTATING HEAD - LEVEL DERRICK



**US ROCKIES REGION**  
**Operation Summary Report**

Well: BONANZA 1023-2G2CS [RED]		Spud Conductor: 12/14/2009		Spud Date: 12/19/2009	
Project: UTAH-UINTAH		Site: BONANZA 1023-2B PAD		Rig Name No: ENSIGN 146/146, PROPETRO/	
Event: DRILLING		Start Date: 12/14/2009		End Date: 2/11/2010	
Active Datum: RKB @5,458.00ft (above Mean Sea Level)		UWI: NW/NE/0/10/S/23/E/2/0/0/26/PM/N/1,230.00/E/0/1,962.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	1:00 - 2:00	1.00	DRLPRO	02	F	P		DRILL CMT, FE & RATHOLE F/1849' TO 1980'
	2:00 - 19:00	17.00	DRLPRO	02	D	P		DRILL/SLIDE F/1980' TO 4098' (2118' @ 124'fph) MW 8.6, WOB 18, RPM 45, MM RPM 105, TQ 6, GPM 504, SLIDE 2013 2026, 2058 2071, 2103 2116, 2149 2162, 2194 2206, 2239 2252, 2285 2300, 2330 2347, 2376 2393, 2421 2438, 2466 2486, 2512 2532, 2557 2577, 2602 2622, 2648 2668, 2693 2713, 2738 2758, 2784 2796, 2829 2844, 2920 2947, 3010 3034, 3101 3121, 3192 3216, 3283 3307, 3373 3388, 3464 3479, 3554 3570, 3645 3665, 3736 3756, 3826 3842, 3917 3935, WOB 18, MM RPM 105, GPM 504, DIFF 350
	19:00 - 19:30	0.50	DRLPRO	07	A	P		RIG SER
	19:30 - 0:00	4.50	DRLPRO	02	D	P		DRILL/SLIDE F/4098' TO 4725' (627' @ 139fph) MW 8.6, WOB 18, RPM 45, MM RPM 105, TQ 6, GPM 504, SLIDE 4098 4114, 4188 4203, 4370 4382, 4460 4469, 4551 4561, 4642 4652, WOB 18, MM RPM 105, GPM 504, DIFF 300
2/9/2010	0:00 - 16:30	16.50	DRLPRO	02	D	P		DRILL/SLIDE F/4725' TO 6455' (1730' @ 104.8fph) MW 10.4, WOB 18, RPM 45, MM RPM 105, TQ 9, GPM 504, SLIDE 4913 4928, 5095 5105, 5185 5195, 5730 5742, WOB 18, MM RPM 105, GPM 504, DIFF 350
	16:30 - 17:00	0.50	DRLPRO	07	A	P		RIG SER
	17:00 - 0:00	7.00	DRLPRO	02	D	P		DRILL F/6455' TO 7000' (545' @ 77.8fph) MW 11.1, WOB 18/20, RPM 105, TQ 14, GPM 504, SLIDE 6636 6648, 6817 6833, 6908 6924, WOB 18/20, MM RPM 105, GPM 504, DIFF 350
	2/10/2010 0:00 - 18:00	18.00	DRLPRO	02	D	P		DRILL/SLIDE F/7000' TO 8260' (1260' @ 70fph) MW 12.0, WOB 20/24, RPM 45, MM RPM 102, GPM 486 - TD WELL @ 8260' MD - 8142' TVD
	18:00 - 19:30	1.50	DRLPRO	05	C	P		CIRC
	19:30 - 0:00	4.50	DRLPRO	06	A	P		POOH LDDP
2/11/2010	0:00 - 2:00	2.00	DRLPRO	06	A	P		LDDP/BHA
	2:00 - 3:00	1.00	DRLPRO	08	A	P		REPAIR CATWALK SKATE - CABLE/SHEAVE
	3:00 - 8:00	5.00	DRLPRO	06	A	P		LDDP/BHA
	8:00 - 8:30	0.50	DRLPRO	14	B	P		RETRIEVE WEARBUSHING
	8:30 - 17:00	8.50	CSG	12	C	P		HPJSM - R/UP FRANKS & RUN 195 JTS & 1 MARKER JOINT 4.5" 11.60 I-80 BTC PROD
								CASING - FLOAT SHOE @ 8245', FLOAT COLLAR 8200'
	17:00 - 18:30	1.50	CSG	05	D	P		CIRC
	18:30 - 21:00	2.50	CSG	12	E	P		HPJSM, R/UP BJ, TEST LINES 4500 PSI, CEMENT 4.5" PROD CASING - PUMPED 40 BBLS FRESH WATER, 841 SKS LEAD 12.0 PPG 2.30 YIELD, 471 SKS TAIL 14.3 PPG 1.31 YIELD, DROPPED PLUG & DISPLACED W/ 127.1 BBLS FRESH WATER
								W/0.1 gal/bbl CLAYFIX II & 0.01 gal/bbl ALDACIDE G @ 2000 PSI, BUMPED PLUG @ 2500 PSI - FLOATS HELD W/1.5 BBL RETURNS - GOOD RETURNS DURING CMT JOB W/28 BBLS CMT TO SURFACE
	21:00 - 21:30	0.50	CSG	12	C	P		L/OUT LANDING JT - SET PACKOFF
	21:30 - 23:59	2.48	DRLPRO	14	A	P		N/DN BOPE - CLEAN RIG TANKS - RELEASE RIG 2/11/10 @ 23:59 HRS



**US ROCKIES REGION**  
**Operation Summary Report**

Well: BONANZA 1023-2G2CS [RED]		Spud Conductor: 12/14/2009		Spud Date: 12/19/2009	
Project: UTAH-UINTAH		Site: BONANZA 1023-2B PAD		Rig Name No: ENSIGN 146/146, PROPETRO/	
Event: DRILLING		Start Date: 12/14/2009		End Date: 2/11/2010	
Active Datum: RKB @5,458.00ft (above Mean Sea Level)		UWI: NW/NE/0/10/S/23/E/2/0/0/26/PM/N/1,230.00/E/0/1,962.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	23:59 - 0:00	0.02	DRLPRO					<p>CONDUCTOR CASING: Cond. Depth set: 44 Cement sx used: 0</p> <p>SPUD DATE/TIME: 12/19/2009 17:30</p> <p>SURFACE HOLE: Surface From depth: 44 Surface To depth: 1,980 Total SURFACE hours: 13.00 Surface Casing size: 9 5/8 # of casing joints ran: 45 Casing set MD: 1,954.0 # sx of cement: 350 Cement blend (ppg): 15.8 Cement yield (ft3/sk): 1.15 # of bbls to surface: 0 Describe cement issues: NO CMT TO SURFACE - 100 SKS CMT TOP OUT Describe hole issues:</p> <p>PRODUCTION: Rig Move/Skid start date/time: 2/7/2010 13:30 Rig Move/Skid finish date/time: 2/7/2010 15:00 Total MOVE hours: 1.5 Prod Rig Spud date/time: 2/8/2010 1:00 Rig Release date/time: 2/11/2010 23:59 Total SPUD to RR hours: 95.0 Planned depth MD 8,246 Planned depth TVD 8,120 Actual MD: 8,260 Actual TVD: 8,142 Open Wells \$: \$490,313 AFE\$: \$629,580 Open wells \$/ft: \$59.36</p> <p>PRODUCTION HOLE: Prod. From depth: 1,980 Prod. To depth: 8,260 Total PROD hours: 63 Production Casing size: 4 1/2 # of casing joints ran: 196 Casing set MD: 8,245.0 # sx of cement: 1,312 Cement blend (ppg): LEAD 12.0, TAIL 14.3 Cement yield (ft3/sk): LEAD 2.30, TAIL 1.31 Est. TOC (Lead &amp; Tail) or 2 Stage : 5900 Describe cement issues: GOOD RETURNS - 28 BBLs CMT TO SURFACE Describe hole issues:</p> <p>DIRECTIONAL INFO: KOP: 2,013 Max angle: 26.13 Departure: 769.21 Max dogleg MD: 5.07</p>



**US ROCKIES REGION**  
**Operation Summary Report**

Well: BONANZA 1023-2G2CS [RED]			Spud Conductor: 12/14/2009			Spud Date: 12/19/2009				
Project: UTAH-UINTAH			Site: BONANZA 1023-2B PAD				Rig Name No: MILES-GRAY 1/1			
Event: COMPLETION			Start Date: 3/26/2010					End Date: 4/7/2010		
Active Datum: RKB @5,458.00ft (above Mean Sea Level)				UWI: NW/NE/0/10/S/23/E/2/0/0/26/PM/N/1,230.00/E/0/1,962.00/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
3/26/2010	7:00 - 7:15	0.25	COMP	48		P		HSM, P/T CSG / FRAC VALVES		
	7:15 - 16:00	8.75	COMP	47	B	P		MIRU B&C TESTERS, P/T CAG & FRAC VALVES TO 7000# [GOOD TEST] R/D TESTERS, MIRU CASED HOLE SOLUTIONS, PERF MESAVERDE USING 3-3/8 EXPEND [SCALLOP] 23 GRM, 0.36" HOLE 7980'-7986' 4 SPF, 90* PH, 24 HOLES. 7914'-7918' 3 SPF, 120* PH, 12 HOLES. 7862'-7864' 3 SPF, 120* PH, 6 HOLES. [42 HOLES] SWI.		
3/29/2010	7:00 - 13:00	6.00	COMP	48		P		HSM, PERF & FRAC		
	13:00 - 18:00	5.00	COMP	36	E	P		MIRU SUPERIOR FRAC, P/T SURFACE LINES TO 8000#, FRAC STG #1 MESAVERDE 7862'-7986' [42 HOLES]  STG #1] WHP=942#, BRK DN PERFS=3265#, INJ RT=51.1, INJ PSI=4150#, ISIP=2035#, FG=.70, PUMP'D 2244 BBLs SLK WTR W/ 85247# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2085#, FG=.70, AR=50.8, AP=3870#, MR=53.5, MP=6212#, NPI=50#, 36/42 CALC PERFS OPEN 85%  STG #2] P/U RIH W/ HALIBURTON 8K CBL & PERF GUN, SET CBL @ 7824', PERF MESAVERDE USING 3-3/8 EXPEND [SCALLOP] 23 GRM, 0.36" HOLE. 7790'-7794' 4 SPF, 90* PH, 16 HOLES. 7696'-7698' 4 SPF, 90* PH, 8 HOLES. 7676'-7678' 4 SPF, 90* PH, 8 HOLES. 7632'-7634' 4 SPF, 90* PH, 8 HOLES. [40 HOLES] SWIFN.		
3/30/2010	7:00 - 7:15	0.25	COMP	48		P		HSM, PERF & FRAC		



**US ROCKIES REGION**  
**Operation Summary Report**

Well: BONANZA 1023-2G2CS [RED]		Spud Conductor: 12/14/2009		Spud Date: 12/19/2009	
Project: UTAH-UINTAH		Site: BONANZA 1023-2B PAD		Rig Name No: MILES-GRAY 1/1	
Event: COMPLETION		Start Date: 3/26/2010		End Date: 4/7/2010	
Active Datum: RKB @5,458.00ft (above Mean Sea Level)		UWI: NW/NE/0/10/S/23/E/2/0/0/26/PM/N/1,230.00/E/0/1,962.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:15 - 18:00	10.75	COMP	36	E	P		<p>FRAC STG #2 MESAVERDE 7632'-7794' [40 HOLES]</p> <p>WHP=1550#, BRK DN PERFS=3249#, INJ RT=50.2, INJ PSI=4319#, ISIP=2207#, FG=.74, PUMP'D 980 BBLS SLK WTR W/ 35765# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2281#, FG=.73, AR=49.8, AP=#4266, MR=53.6, MP=5180#, NPI=74#, 30/40 CALC PERFS OPEN 76%</p> <p>STG #3] P/U RIH W/ HALIBURTON 8K CBL &amp; PERF GUN, SET CBL @ 7610', PERF MESAVERDE USING 3-3/8 EXPEND [SCALLOP] 23 GRM, 0.36" HOLE. 7577'-7580' 4 SPF, 90* PH, 12 HOLES. 7552'-7554' 4 SPF, 90* PH, 8 HOLES. 7417'-7419' 4 SPF, 90* PH, 8 HOLES. 7393'-7396' 4 SPF, 90* PH, 12 HOLES. [40 HOLES]</p> <p>WHP=0#, BRK DN PERFS=6014#, INJ RT=55.4, INJ PSI=5179#, ISIP=1479#, FG=.74, PUMP'D 4018 BBLS SLK WTR W/ 157883# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2281#, FG=.72, AR=54.4, AP=4550#, MR=57.8, MP=6701#, NPI=611#, 23/40 CALC PERFS OPEN 76%</p> <p>STG #4] P/U RIH W/ HALIBURTON 8K CBL &amp; PERF GUN, SET CBL @ 7350', PERF MESAVERDE USING 3-3/8 EXPEND [SCALLOP] 23 GRM, 0.36" HOLE. 7316'-7320' 4 SPF, 90* PH, 16 HOLES. 7272'-7276' 3 SPF, 120* PH, 12 HOLES. 7166'-7170' 4 SPF, 90* PH, 16 HOLES. [44 HOLES]</p> <p>WHP=1103#, BRK DN PERFS=3369#, INJ RT=50.5, INJ PSI=4046#, ISIP=1131#, FG=.59, PUMP'D 1001 BBLS SLK WTR W/ 37540# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=1464#, FG=.64, AR=49, AP=4115#, MR=51.3, MP=6010#, NPI=333#, 26/44 CALC PERFS OPEN 60% SWIFN.</p>
3/31/2010	7:00 - 7:15	0.25	COMP	48		P		HSM, PERF & FFRAC



**US ROCKIES REGION**  
**Operation Summary Report**

Well: BONANZA 1023-2G2CS [RED]	Spud Conductor: 12/14/2009	Spud Date: 12/19/2009
Project: UTAH-UINTAH	Site: BONANZA 1023-2B PAD	Rig Name No: MILES-GRAY 1/1
Event: COMPLETION	Start Date: 3/26/2010	End Date: 4/7/2010
Active Datum: RKB @5,458.00ft (above Mean Sea Level)		
UWI: NW/NE/0/10/S/23/E/2/0/0/26/PM/N/1,230.00/E/0/1,962.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:15 - 17:30	10.25	COMP	36	E	P		<p>STG #5] P/U RIH W/ HALIBURTON 8K CBL &amp; PERF GUN, SET CBL @ 7114', PERF MESAVERDE USING 3-3/8 EXPEND [SCALLOP] 23 GRM, 0.36" HOLE.</p> <p>7080'-7084' 4 SPF, 90° PH, 16 HOLES.</p> <p>7014'-7016' 4 SPF, 90° PH, 8 HOLES.</p> <p>6076'-6980' 4 SPF, 90° PH, 16 HOLES. [40 HOLES]</p> <p>WHP=824#, BRK DN PERFS=1710#, INJ RT=48, INJ PSI=3365#, ISIP=1183#, FG=61, PUMP'D 706 BBLs SLK WTR W/ 23303# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=1508#, FG=65, AR=46.1, AP=3483#, MR=48.8, MP=4185#, NPI=325#, 25/40 CALC PERFS OPEN 62%</p> <p>STG #6] P/U RIH W/ HALIBURTON 8K CBL &amp; PERF GUN, SET CBL @ 6927', PERF MESAVERDE USING 3-3/8 EXPEND [SCALLOP] 23 GRM, 0.36" HOLE.</p> <p>6896'-6898' 4 SPF, 90° PH, 4 HOLES.</p> <p>6868'-6870' 4 SPF, 90° PH, 8 HOLES.</p> <p>6842'-6843' 4 SPF, 90° PH, 4 HOLES.</p> <p>6804'-6808' 4 SPF, 90° PH, 16 HOLES.</p> <p>6728'-6729' 4 SPF, 90° PH, 4 HOLES. [36 HOLES]</p> <p>WHP=1053#, BRK DN PERFS=1914#, INJ RT=51.1, INJ PSI=4598#, ISIP=1358#, FG=64, PUMP'D 1098 BBLs SLK WTR W/ 42425# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=1615#, FG=68, AR=51.5, AP=4962#, MR=52.3, MP=5794#, NPI=257#, 24/36 CALC PERFS OPEN 66% W/ TRACER</p>
4/5/2010	7:00 - 7:30	0.50	COMP	48		P		P/U RIH W/ HALIBURTON 8K CBP, SET CBP KILL PLUG @ 6678'
	7:30 - 15:00	7.50	COMP	30	A	P		HSM,MOVING RIG & EQUIP
4/6/2010	7:00 - 7:30	0.50	COMP	48		P		MOVE RIG & EQUIP F/ NBU 920 220, SPOT RIG & EQUIP, WIND BLOWING TO HARD TO RIG UP. ND FRAC VALVES, NU WEATHERFORD WELL HEAD SECTION & BOPS W/ WINCH TRUCK. RU PUMP & LINES. SWI SDFN
	7:30 - 15:00	7.50	COMP	46	C	P		HSM, NOT RIGGING UP IN HARD WINDS
4/7/2010	7:00 - 7:30	0.50	COMP	48		P		WAIT FOR WIND TO QUIT TO RIG UP, IT NEVER DID SDFN.
	7:30 - 8:00	0.50	COMP	30	A	P		HSM, PICKING TBG UP OFF FLOAT & WORKING W/ POWER SWIVEL
	8:00 - 12:00	4.00	COMP	31	I	P		RIG UP RIG
								TALLY & PU 37/8 SEALED BEARING BIT, POBS, 1.875 X/N, & 210 JTS 23/8 L-80 TBG TAG @ 6633' RU DRILLING EQUIP.



**US ROCKIES REGION**  
**Operation Summary Report**

Well: BONANZA 1023-2G2CS [RED]			Spud Conductor: 12/14/2009			Spud Date: 12/19/2009		
Project: UTAH-UINTAH			Site: BONANZA 1023-2B PAD			Rig Name No: MILES-GRAY 1/1		
Event: COMPLETION			Start Date: 3/26/2010			End Date: 4/7/2010		
Active Datum: RKB @5,458.00ft (above Mean Sea Level)			UWI: NW/NE/0/10/S/23/E/2/0/0/26/PM/N/1,230.00/E/0/1,962.00/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	12:00 - 18:00	6.00	COMP	44	C	P		BROKE CIRC CONVENTIONAL, TEST BOPS TO 3,000# PSI, RIH  C/O 45' SAND TAG 1ST PLUG @ 6678', DRL PLG IN 5 MIN, 200# INCREASE RIH.  C/O 30' SAND TAG 2ND PLUG @ 6927', DRL PLG IN 2 MIN, 200# INCREASE RIH.  C/O 30' SAND TAG 3RD PLUG @ 7114', DRL PLG IN 2 MIN, 100# INCREASE RIH.  C/O 30' SAND TAG 4TH PLUG @ 7350', DRL PLG IN 2 MIN, 0# INCREASE RIH.  C/O 30' SAND TAG 5TH PLUG @ 7610', DRL PLG IN 3 MIN, 300# INCREASE RIH.  C/O 30' SAND TAG 6TH PLUG @ 7824', DRL PLG IN 6 MIN, 300# INCREASE RIH.  C/O TO 8089' 103' RAT HOLE, 256 JTS IN. CIRC CLEAN, RD SWIVEL, L/D 16 JTS, LAND TBG ON 240 JTS 23/8 L-80'. ND BOPS NU WH, DROP BALL & PUMP OFF BIT LET WELL SET FOR 30 MIN FOR BIT TO FALL, TURN WELL OVER TO FB CREW. RIG DWN RIG. MOVE OVER TO NEXT WELL BON 1023- 2G3BS. & RIG UP SDFN.  FTP = 50 PSI SICP = 1050 PSI  KB = 15' WEATHERFORD 71/16 HANGER = .83' 240 JTS 23/8 L-80 TBG = 7570.64' POBS = 2.20' EOT @ 7588.67'  316 JTS HAULED OUT 240 LANDED 76 TO RETURN.  TWTR TWR TWLTR
4/8/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 1550#, TP 1000#, 20/64" CK, 48 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 1849 BBLS LEFT TO RECOVER: 8398
4/9/2010	-			33	A			7 AM FLBK REPORT: CP 2450#, TP 1200#, 20/64" CK, 38 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 2873 BBLS LEFT TO RECOVER: 7374
	13:00 -		PROD	50				WELL TURNED TO SALES @ 1300 HR ON 4/9/10 - 450 MCFD, 912 BWPH, CP 2450#, FTP 1000#, CK 24/64"
4/10/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2150#, TP 1050#, 22/64" CK, 32 BWPH, TRACE SAND, 1162 GAS TTL BBLS RECOVERED: 3713 BBLS LEFT TO RECOVER: 6534



**US ROCKIES REGION**  
**Operation Summary Report**

Well: BONANZA 1023-2G2CS [RED]			Spud Conductor: 12/14/2009			Spud Date: 12/19/2009				
Project: UTAH-UINTAH			Site: BONANZA 1023-2B PAD				Rig Name No: MILES-GRAY 1/1			
Event: COMPLETION			Start Date: 3/26/2010					End Date: 4/7/2010		
Active Datum: RKB @5,458.00ft (above Mean Sea Level)				UWI: NW/NE/0/10/S/23/E/2/0/0/26/PM/N/1,230.00/E/0/1,962.00/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
4/11/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 1900#, TP 1000#, 22/64" CK, 27 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 4424 BBLS LEFT TO RECOVER: 5823		
4/12/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 1700#, TP 1000#, 22/64" CK, 23 BWPH, trace SAND, - GAS TTL BBLS RECOVERED: 5026 BBLS LEFT TO RECOVER: 5221		
4/13/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 1600#, TP 850#, 22/64" CK, 18 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 5525 BBLS LEFT TO RECOVER: 4722		
4/14/2010	7:00 -		PROD	50				WELL IP'D ON 4/14/10 - 1241 MCFD, 19 BOPD, 432 BWPD, CP 1285#, FTP 605#, CK 22/64", LP 78#, 24 HRS		



**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: P.O. Box 173779  
city DENVER  
state CO zip 80217 Phone Number: (720) 929-6100

**Well 1**

API Number	Well Name	QQ	Sec	Twp	Rng	County
4304750345	BONANZA 1023-2G3BS	NWNE	2	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date	Entity Assignment Effective Date		
<u>C</u>	17428	<u>17428</u>	12/14/2009	<u>5/18/10</u>		
<b>Comments:</b> THIS WELL IS ONLY PRODUCING OUT OF THE <u>MESAVERDE</u> FORMATION. <u>BHL = SWNE</u>						

**Well 2**

API Number	Well Name	QQ	Sec	Twp	Rng	County
4304750346	BONANZA 1023-2G2CS	NWNE	2	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date	Entity Assignment Effective Date		
<u>C</u>	17429	<u>17429</u>	12/14/2009	<u>5/18/10</u>		
<b>Comments:</b> THIS WELL IS ONLY PRODUCING OUT OF THE <u>MESAVERDE</u> FORMATION. <u>BHL = SWNE</u>						

**Well 3**

API Number	Well Name	QQ	Sec	Twp	Rng	County
4304750347	BONANZA 1023-2G1BS	NWNE	2	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date	Entity Assignment Effective Date		
<u>C</u>	17427	<u>17427</u>	12/14/2009	<u>5/18/10</u>		
<b>Comments:</b> THIS WELL IS ONLY PRODUCING OUT OF THE <u>MESAVERDE</u> FORMATION. <u>BHL = SWNE</u>						

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

**RECEIVED**

**MAY 18 2010**

**ANDY LYTLE**

Name (Please Print)

Signature

REGULATORY ANALYST

Title

5/18/2010

Date



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 47062
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-2G2CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1230 FNL 1962 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 02 Township: 10.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43047503460000
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 4/6/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input checked="" type="checkbox"/> <b>CASING REPAIR</b>  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input type="text" value="Wellhead"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> The operator requests approval to conduct wellhead/casing repair operations on the subject well location. Please find the attached procedure for the proposed repair work on the subject well location.		
<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> 04/06/2011 <b>By:</b> <u><i>Dan K. Quist</i></u>		
<b>NAME (PLEASE PRINT)</b> Andy Lytle		<b>PHONE NUMBER</b> 720 929-6100
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 4/6/2011		



**WORKORDER # 88119305**

**Name:** BONANZA 1023-2G2CS - 1023-2B PAD  
**Surface Location:** NWNE Sec. 2, T10S, R23E  
 Uintah County, UT

4/5/11

**API:** 4304750346      **LEASE#:** ML-47062

**ELEVATIONS:** 5443' GL\*      5457' KB  
 Completion report states 5444' as GL, but GL for this pad location is 5443'

**TOTAL DEPTH:** 8260'      **PBTD:** 8202'

**SURFACE CASING:** 9 5/8", 36# J-55 @ 1954'

**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 @ 8245'  
 No CBL on file

**PERFORATIONS:** Mesaverde      6728' - 7986'

Tubular/Borehole	Drift inches	Collapse psi	Burst psi	Capacities		
				Gal./ft.	Cuft/ft.	Bbl./ft.
2.375" 4.7# J-55 tbg.	1.901	8100	7700	0.1624	0.02171	0.00387
4.5" 11.6# I-80	3.875	6350	7780	0.6528	0.0872	0.0155
9.625" 36# J-55	8.921	2020	3520	3.247	0.434	0.0773
<b>Annular Capacities</b>						
2.375" tbg. X 4 1/2" 11.6# csg				0.4227	0.0565	0.01

**GEOLOGICAL TOPS:**

1155' Green River  
 1844' Mahogany  
 4240' Wasatch  
 6058' Mesaverde



**BONANZA 1023-2G2CS - WELLHEAD REPLACEMENT PROCEDURE -**

**PREP-WORK PRIOR TO MIRU:**

1. Dig out down to the 2" surface casing valve or to the valve on the riser off the surface casing.
2. Install a tee with 2 valves, with a pressure gauge and sensor on one valve.
3. Open casing valve and record pressures.
4. Install nipple and steel hose on the other valve, the relief valve,. Do not use hammer unions. No impact equipment or tools to be used for any of this installation. Extend hose and hard piping to a downwind location at least 100' from the wellhead. Consider installing a manifold so that vent area could be in two locations approx. 90 degrees apart from the wellhead.
5. Open the relief valve and blow well down to the atmosphere.
6. Make a determination of amount of gas flow, either by installation of a choke nipple, bucket test or other.
7. Shut well in. Observe for rate of build-up by utilizing sensor data. Do not build-up for more than 24 hours. Vent gas through the vent line and leave open to the atmosphere.

**WORKOVER PROCEDURE:**

1. MIRU workover rig.
2. Kill well with 10# brine / KCL (dictated by well pressure ).
3. Remove tree, install double BOP with blind and 2 3/8" pipe rams, with accumulator closing unit and manual back-ups. Function test BOP system.
4. POOH w/ tubing laying down extra tubing.
5. Rig up wireline service. RIH and set CBP @ ~6678'. Dump bail 4 sx cement on top of plug. POOH and RD wireline service. TIH w/ tubing and seating nipple. Land tubing ±60' above cement. RDMO.
6. Monitor well pressures. If surface casing is dead. MIRU. ND WH and NU BOP. POOH w/ tubing.
7. Depending on conditions at wellsite, continue with either CUT/PATCH Procedure or BACK-OFF Procedure.



**CUT/PATCH PROCEDURE:**

1. PU internal casing cutters and RIH. Cut casing at +/- 30' from surface.
2. POOH, LD cutters and casing.
3. PU 7 3/8" overshoot with 4 1/2" right hand standard wicker grapple, 1 - 4 3/4" drill collar with 3 1/2" IF threads, pup joint, manual bumper sub, and crossovers. If casing cut is deeper than ±30' utilize >7000 ft-lb torque pipe as needed. Pull a minimum of 10,000# to keep grapple engaged if cement top is high (<~900'). If cement top is low (>~900'), more weight will be required to put casing in neutral. Torque casing string to ±7000 ft-lbs, count number of turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ±7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out, release overshoot, POOH, and lay down.
4. TIH w/ skirted mill and dress off the fish top for approximately 1/2 hour. TOOH.
5. PU & RIH w/ 4 1/2" 10k external casing patch on 4 1/2" P-110 casing. Ensure that sliding sleeve assembly shifts ±3' and casing tags no-go portion of patch. NOTE: Shear pins will shear at 3500 to 4500 lbs.
6. Latch fish, PU to 100,000# tension. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
7. Install slips. Land casing w/ 80,000# tension.
8. Cut-off and dress 4 1/2" casing stub.
9. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6628'. Clean out to PBTD (8202').
10. POOH, land tbg and pump off POBS.
11. NUWH, RDMO. Turn well over to production ops.

**BACK-OFF PROCEDURE:**

1. PU internal casing cutters and RIH. Cut casing at +/- 6' from surface.
2. POOH, LD cutters and casing.
3. PU 4 1/2" overshoot. RIH, latch fish. Pick string weight to neutral.
4. MIRU casing crew and wireline services. RIH and shoot string shot at casing collar @ ± 46'.
5. Back-off casing, POOH.



6. PU new casing joint with buttress threads and entry guide and RIH. Tag casing top. Thread into casing and torque up to  $\pm 7000$  ft-lbs, count number of additional turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place  $\pm 7000$  ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out go to step 7.
7. PU 100,000# tension string weight. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
8. Install slips. Land casing w/ 80,000# tension.
9. Cut-off and dress 4 1/2" casing stub.
10. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6628'. Clean out to PBTD (8202').
11. POOH, land tbg and pump off POBS.
12. NUWH, RDMO. Turn well over to production ops.





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## **Logan High Pressure Casing Patches Assembly Procedure**

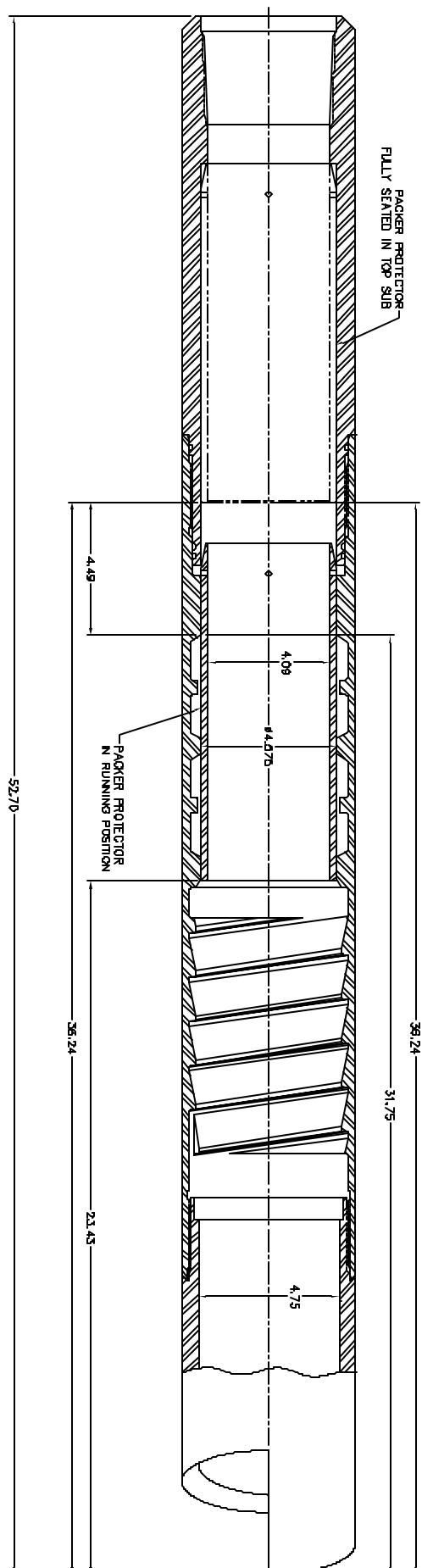
All parts should be thoroughly greased before being assembled.

1. Install all four Logan Type "L" Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.
2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector through the four Type "L" Packers.
3. Align Shear Pin Holes in Packer Protector so that the holes have just passed into the counter bore at the Top Sub end, refer to diagram. The Packer Protector is provided with four Shear Pin Holes. Use only two holes, 180 degrees apart and install the pins.
4. Screw the Basket Grapple in from the lower end of the Bowl, using left-hand rotation. The Tang Slot in the Basket Grapple must land in line with the slot in the Bowl.
5. Insert the Basket Grapple Control into the end of the Bowl. Align Tang on the Basket Grapple Control with the Tang Slot of the Bowl and Basket Grapple. This secures the Bowl and the Basket Grapple together.
6. Install the Cutlipped Guide into the lower end of the Bowl.
7. Install O-Rings on the two five-foot long Extensions. Screw the first Extension into the top end of the Bowl. Screw the second Extension into the top end of the first Extension.
8. Install O-Ring on Top Sub. Screw Top Sub into top end of second Extension.

Follow recommended Make-Up Torque as provided in chart.

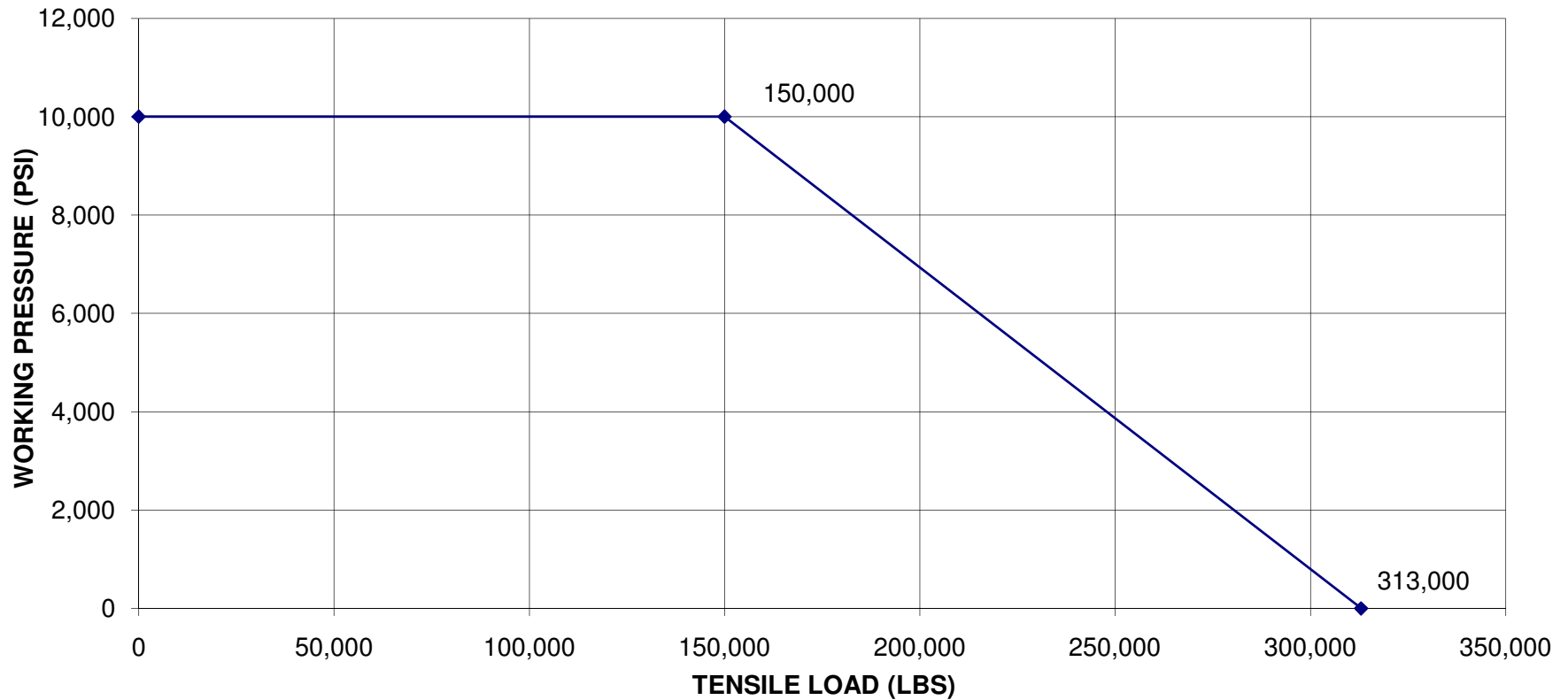


510L-005-001 4-1/2" LOGAN HP CASING PATCH





**STRENGTH DATA FOR LOGAN 5.88" OD "L" TYPE CSG PATCH  
4-1/2 CASING, 10K PSI MAX WP 125K YIELD MAT'L  
LOGAN ASSEMBLY NO. 510L-005 -000**



COLLAPSE PRESSURE:  
11,222 PSI @ 0 TENSILE  
8,634 PSI @ 220K TENSILE

Tensile Strength @ Yield:  
Tensile Strength w/ 0 Int. Press.= 472,791lbs.  
Tensile Strength w/ 10K Int. Press.= 313,748lbs.

DATA BY SLS 11/16/2009

**RECEIVED** Apr. 06, 2011



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 47062
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-2G2CS
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1230 FNL 1962 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 02 Township: 10.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43047503460000
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 5/9/2011	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input checked="" type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	
<input type="checkbox"/> DRILLING REPORT Report Date:	OTHER: <input style="width: 100px;" type="text" value="Wellhead Repair"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  The operator has concluded wellhead/casing repairs on the subject well location. Please see the attached chronological history for details of the operations.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Gina Becker		<b>PHONE NUMBER</b> 720 929-6086
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst II
<b>DATE</b> 5/9/2011		



## US ROCKIES REGION

### Operation Summary Report

Well: BONANZA 1023-2G2CS [RED]			Spud Conductor: 12/14/2009			Spud Date: 12/19/2009			
Project: UTAH-UINTAH			Site: BONANZA 1023-2B PAD				Rig Name No: MILES 2/2		
Event: WELL WORK EXPENSE			Start Date: 4/13/2011				End Date: 4/15/2011		
Active Datum: RKB @5,458.00ft (above Mean Sea Leve			UWI: NW/NE/0/10/S/23/E/2/0/0/26/PM/N/1,230.00/E/0/1,962.00/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation	
4/13/2011	7:00 - 7:30	0.50	MAINT	48		P		MIRU	
	7:30 - 17:00	9.50	MAINT	34		P		MIRU,100# TBG, 200# CSG, BLOW DWN WELL. KILL WELL, NDWH, NU BOP'S,PRESSURE TEST BOP'S, 3000#, UNLAND TBG, POOH TBG STD BACK,120 STDS, RU CUTTERS, RUN GAUGE RINGTO 6688', POOH, PU 10K CBP, TIH SET CBP 6660', POOH PU BAILER, BAIL CEMENT ON TOP OF PLUG, POOH, RD CUTTERS, SWIFN	
4/14/2011	6:45 - 7:00	0.25	COMP	48		P		HSM. WL SAFETY.	
	7:00 - 18:00	11.00	COMP	31	B	P		OPEN WELL 0# RU CIRC EQUIP. PU 10' PUP JT. RIH 10' CIRC WELL CLEAN. POOH. STD BK DRL EQUIP. PU 4 1/2 INSIDE CUTTING TOOL. RIH CUT 4 1/2 CSG OFF 2' DOWN BELOW MANDREL. POOH W/ CUTTER. LD MANDREL & CUT JT. PU OVERSHOT. RIH LATCH FISH. MIRU CUTTERS WL & CSG CREW. PU STRING SHOT. RIH TO 1ST 4 1/2 COLLAR, SET OFF. POOH. RD CUTTERS WL. BACK CSG OFF @ 4', PIN LOOKING UP. LD UNSCREWED CSG. PU 10' 4 1/2, 11.6# L-80 CSG PUP JT. SCREW INTO FISH. MIRU B&C QUICK TEST. PULL 80K ON 4 1/2 CSG. PSI TEST CSG T/ 1000 PSI FOR 15 MIN. GOOD TEST. 3500 PSI FOR 30 MIN. GOOD TEST. BLEED OFF PSI. SET CSG SLIPS. RD CSG CREW. NU BOP. RU TBG EQUIP. PU 3 7/8 BIT + X-DART + POBS + XN-NIPPLE. RIH W/ 210 JTS 2 3/8 TBG. SWIFN. DRL OUT CMT & CBP IN THE :AM.	
4/15/2011	6:45 - 7:00	0.25	COMP	44	C	P		OPEN WELL 0#. MIRU WEATHERFORD FU W/ N2. RU DRL EQUIP. BRK CONV CIRC. DRL OUT 50' CMT & HAL CBP @ 6660'. CIRC WELL CLEAN. CONT RIH TAG FILL @ 8038'. CO T/ 8058'. HARD DRLING. 72' RAT HOLE. CIRC WELL CLEAN. RD DRL EQUIP. RD WEATHERFORD FU. POOH, LD EXESS TBG = 16 JTS. PU 4 1/16 TBG HNGR 7 LAND TBG W/ KB = 14' 4 1/16 TBG HNGR = .83 240 JTS 2 3/8 TBG = 7568.93 XN-NIPPLE = 2.2 EOT @ 7585.96  NB BOP. NU WH. DROP BALL. PUMP BIT OFF. SWI. RACK OUT RIG EQUIP. RD RIG. MOVE OVER.	



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 47062
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
1. TYPE OF WELL Gas Well		7. UNIT or CA AGREEMENT NAME: PONDEROSA
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		8. WELL NAME and NUMBER: BONANZA 1023-2G2CS
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		9. API NUMBER: 43047503460000
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1230 FNL 1962 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 02 Township: 10.0S Range: 23.0E Meridian: S		9. FIELD and POOL or WILDCAT: WATERS BUTTES
		COUNTY: UINTAH
		STATE: UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <b>5/22/2012</b>	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input checked="" type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input type="text"/>
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:			
<input type="checkbox"/> SPUD REPORT Date of Spud:			
<input type="checkbox"/> DRILLING REPORT Report Date:			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The operator requests authorization to recomplete the subject well. The operator requests approval to recomplete the Wasatch formation and commingle with the existing Mesaverde formation. Please see the attached procedure. Thank you.

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

Date: May 24, 2012

By: *Derek Duff*

NAME (PLEASE PRINT) Cara Mahler	PHONE NUMBER 720 929-6029	TITLE Regulatory Analyst I
SIGNATURE N/A		DATE 5/22/2012



# Greater Natural Buttes Unit



## BONANZA 1023-2G2CS RE-COMPLETIONS PROCEDURE

**DATE: 05/10/2012**  
**AFE#:**  
**API#: 4304750346**  
**USER ID: WIU473** (Frac Invoices Only)

**COMPLETIONS ENGINEER:** Patricia Cuba, Denver, CO  
(720) 929-6348 (Office)  
(303) 601-7259 (Cell)

**SIGNATURE:**

**ENGINEERING MANAGER: JEFF DUFRESNE**

**SIGNATURE:**

**REMEMBER SAFETY FIRST!**



**Name:** **BONANZA 1023-2G2CS**  
**Location:** **SW NW SW NE Sec 2 T10S R23E**  
**LAT: 39.981828** **LONG: -109.291828** **COORDINATE: NAD83 (Surface Location)**  
**Uintah County, UT**  
**Date:** **05/10/2012**

**ELEVATIONS:** 5442' GL 5457' KB TVD: 8142

**TOTAL DEPTH:** 8260' **PBTD:** 8201'  
**SURFACE CASING:** 9 5/8", 36# J-55 ST&C @ 1953'  
**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 BT&C @ 8244'  
 Marker Joint **6490'-6511''**

**TUBULAR PROPERTIES:**

	BURST (psi)	COLLAPSE (psi)	DRIFT DIA. (in.)	CAPACITIES	
				(bbl/ft)	(gal/ft)
2 3/8" 4.7# J-55 tbg	7,700	8,100	1.901"	0.00387	0.1624
4 1/2" 11.6# I-80 (See above)	7780	6350	3.875"	0.0155	0.6528
2 3/8" by 4 1/2" Annulus				0.0101	0.4227

**TOPS:**

1155' Green River Top  
 1508' Bird's Nest Top  
 1859' Mahogany Top  
 4240' Wasatch Top  
 6006' Mesaverde Top  
 \*Based on latest geological interpretation

**BOTTOMS:**

6006' Wasatch Bottom  
 8260' Mesaverde Bottom (TD)

**T.O.C. @ 67'**

**GENERAL:**

- A minimum of **6** tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Schlumbergers Induction-Density-Neutron log dated 03/01/2010
- **3** fracturing stages required for coverage.
- Hydraulic isolation estimated at **67'** based upon from Baker's cbl dated 02/16/2010.
- Procedure calls for **4** CBP's (**8000** psi) .
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- **Pump scale inhibitor at 0.5 gpt. Remember to pre-load the casing with scale inhibitor for the very first stage with 0.5 gpt.**
- 30/50 mesh Ottawa sand, Slickwater frac.
- Maximum surface pressure **6200** psi.
- **If casing pressure test fails. MIRU with tubing and packer. Isolate leak by pressure testing above and below the packer. RIH and set appropriate casing leak remediation**



(specific details on remediation will be provided in post-job-report). Re-pressure test to 1000 and 3500 psi for 15 minutes each and to 6200 psi for 30 minutes.

- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- **Call flush at 0 PPG @ inline densimeters. Slow to 5 bbl/min over last 10-20 bbls of flush. Flush to top perf.**
- Tubing Currently Landed @~7586'
- Originally completed on 03/26/2010

#### Existing Perforations:

<b>PERFORATIONS</b>							
<u>Formation</u>	<u>Zone</u>	<u>Top</u>	<u>Btm</u>	<u>spf</u>	<u>Shots</u>	<u>Date</u>	<u>Reason</u>
MESAVERDE		6728	6729	4	4	03/26/2010	PRODUCTION
MESAVERDE		6804	6808	4	16	03/26/2010	PRODUCTION
MESAVERDE		6842	6843	4	4	03/26/2010	PRODUCTION
MESAVERDE		6868	6870	4	8	03/26/2010	PRODUCTION
MESAVERDE		6896	6898	4	8	03/26/2010	PRODUCTION
MESAVERDE		6976	6980	4	16	03/26/2010	PRODUCTION
MESAVERDE		7014	7016	4	8	03/26/2010	PRODUCTION
MESAVERDE		7080	7084	4	16	03/26/2010	PRODUCTION
MESAVERDE		7166	7170	4	16	03/26/2010	PRODUCTION
MESAVERDE		7272	7276	3	12	03/26/2010	PRODUCTION
MESAVERDE		7316	7320	4	16	03/26/2010	PRODUCTION
MESAVERDE		7393	7396	4	12	03/26/2010	PRODUCTION
MESAVERDE		7417	7419	4	8	03/26/2010	PRODUCTION
MESAVERDE		7552	7554	4	8	03/26/2010	PRODUCTION
MESAVERDE		7577	7580	4	12	03/26/2010	PRODUCTION
MESAVERDE		7632	7634	4	8	03/26/2010	PRODUCTION
MESAVERDE		7676	7678	4	8	03/26/2010	PRODUCTION
MESAVERDE		7696	7698	4	8	03/26/2010	PRODUCTION
MESAVERDE		7790	7794	4	16	03/26/2010	PRODUCTION
MESAVERDE		7862	7864	3	6	03/26/2010	PRODUCTION
MESAVERDE		7914	7918	3	12	03/26/2010	PRODUCTION
MESAVERDE		7980	7986	4	24	03/26/2010	PRODUCTION

#### Relevant History:

03/26/2010: Completed with 386,020 gallons of slickwater, 333,839 lbs of 30/50 Ottawa sand and 30,000 lbs of 30/50 resin coated sand.

04/14/2011: Changed out wellhead

04/15/2011: Land tubing @ 7586'

06/28/2012: Last Slickline Report:  
Rig up went in with G1 tool stacked out at 7576 beat down latch on plunger came out had a bypass viper plunger put on jdc went back in stacked out at the same spot beat down latch on spring hit oil jars 4 times broke loose came out run T.D with bailer stacked out at 8059 came out bailer had some sand scratch and brough tubing had some scale came out 1.90 brouch



was clean plunger was good spring had some scale clean spring drop spring and plunger chase to seat nipple came out rig down travel to next location.

**H2S History:** This well has H<sub>2</sub>S presence at the separator (see table below):

Production Date	Gas (avg mcf/day)	Water (avg bbl/day)	Oil (avg bbl/day)	LGR (bbl/Mmcf)	Max H2S Seperator (ppm)
5/31/2010	469.00	0.00	10.65	22.70	
6/30/2010	276.37	1.00	2.13	11.34	30.00
7/31/2010	206.77	0.00	2.23	10.76	25.00
8/31/2010	176.58	0.71	1.23	10.96	0.00
9/30/2010	208.57	0.77	1.27	9.75	3.00
10/31/2010	177.97	34.58	1.77	204.28	3.00
11/30/2010	177.20	37.23	0.70	214.07	24.00
12/31/2010	155.52	24.61	2.35	173.41	22.00
1/31/2011	138.10	22.06	1.19	168.42	41.00
2/28/2011	121.93	15.75	0.50	133.27	18.00
3/31/2011	121.42	23.29	0.65	197.13	33.00
4/30/2011	100.83	14.77	0.63	152.73	28.00
5/31/2011	108.32	28.87	0.16	268.02	21.00
6/30/2011	90.97	20.17	0.43	226.46	19.00
7/31/2011	94.94	24.52	0.00	258.24	16.00
8/31/2011	99.90	21.23	1.19	224.41	14.00
9/30/2011	108.77	21.50	0.00	197.67	12.00
10/31/2011	104.39	23.00	0.00	220.33	18.00
11/30/2011	91.70	18.73	2.67	233.37	15.00
12/31/2011	67.77	10.48	0.00	154.69	41.00
1/31/2012	102.03	22.97	5.45	278.53	37.00
2/29/2012	91.03	15.52	0.79	179.17	32.00
3/31/2012	84.97	13.23	5.61	221.72	31.00
4/30/2012	77.89	14.37	0.77	194.29	27.00

**PROCEDURE:** (If using any chemicals for pickling tubing or H<sub>2</sub>S Scavenging, have MSDS for all chemicals prior to starting work.)

1. MIRU. Control well with recycled water and biocide as required. ND WH, NU BOP's and test.
2. The tubing is below the proposed CBP depth, TOOH with 2-3/8", 4.7#, J-55 (or N-80) tubing (currently landed at ~7586'). Visually inspect for scale and consider replacing if needed.
3. If tbg looks ok consider running a gauge ring to 6054 (50' below proposed CBP). Otherwise P/U a mill and C/O to 6054 (50' below proposed CBP).
4. Set 8000 psi CBP at ~ 6004'.
5. ND BOPs and NU frac valves. Test frac valves and casing to 1000 and 3500 psi for 15 minutes each and to 6200 psi for 30 minutes; if pressure test fails contact Denver engineer



and see notes. As per standard operating procedure install steel blowdown line to reserve pit from 4-1/2" X 9-5/8" annulus. Lock **OPEN** the Braden head valve. Annulus will be monitored throughout stimulation. If release occurs, stimulation will be shut down. Well conditions will be assessed and actions taken as necessary to secure the well. UDOGM will be notified if a release to the annulus occurs.

6. Perf the following with 3-3/8" gun, 23 gm, 0.36"hole:

Zone	From	To	spf	# of shots
WASATCH	5788	5790	4	8
WASATCH	5970	5974	4	16

7. Breakdown perfs and establish injection rate (include scale inhibitor in fluid). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~5788' and trickle 250gal 15%HCL w/ scale inhibitor in flush .

8. Set 8000 psi CBP at ~5597'. Perf the following 3-3/8" gun, 23 gm, 0.36"hole:

Zone	From	To	spf	# of shots
WASATCH	5508	5510	4	8
WASATCH	5563	5567	4	16

9. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 2 on attached listing. Under-displace to ~5508' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

10. Set 8000 psi CBP at ~5442'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
WASATCH	5280	5281	4	4
WASATCH	5299	5300	4	4
WASATCH	5308	5309	4	4
WASATCH	5409	5412	4	12

11. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 7 on attached listing. Under-displace to ~5280' and flush only with recycled water.

12. Set 8000 psi CBP at ~5230'.

13. ND Frac Valves, NU and Test BOPs.

14. TIH with 3 7/8" mill, pump open sub, XN nipple and tubing.

15. Mill 3 plugs and clean out to a depth of 5994'.

16. Land tubing at 5758', drop ball and pump open sub. Flow back completion load. RDMO

17. MIRU, POOH tbg and mill. TIH with POBS and mill.

18. Mill last plug @ 6004' clean out to PBTD at 8201'. Land tubing at ±7586' pump off bit and bit sub. **This well WILL be commingled at this time.**

19. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.



20. **Leave surface casing valve open.** Monitor and report any flow from surface casing. RDMO

**For design questions, please call**  
**Patricia Cuba, Denver, CO**  
**(720) 929-6348 (Office)**  
**(303) 601-7259 (Cell)**

**For field implementation questions, please call**  
**Jeff Samuels, Vernal, UT**  
**(435)-781-7046 (Office)**

**NOTES:**

**If using any chemicals for pickling tubing or H2S Scavenging, have MSDS for all chemicals prior to starting work**

**Verify that the Braden head valve is locked OPEN.**

Total Stages	3	stages
Last Stage Flush	3,447	gals

Service Company Supplied Chemicals - Job Totals

Friction Reducer	45	gals @	0.5	GPT
Surfactant	89	gals @	1.0	GPT
Clay Stabilizer	45	gals @	0.5	GPT
15% Hcl	750	gals @	250	gal/stg
Iron Control for acid	4	gals @	5.0	GPT of acid
Surfactant for acid	2	gals @	2.0	GPT of acid
Corrosion Inhibitor for acid	5	gals @	6.0	GPT of acid

Third Party Supplied Chemicals Job Totals - Include Pumping Charge if Applicable

Scale Inhibitor	48	gals pumped	0.5	GPT (see schedule)
Biocide	27	gals @	0.3	GPT



Stage	Zone	Perfs		SPF	Holes	Rate BPM	Fluid Type	Initial ppg	Final ppg	Fluid	Volume gals	Cum Vol gals	Volume BBLs	Cum Vol BBLs	Fluid % of frac	Sand % of frac	Sand lbs	Cum. Sand lbs	Footage from CBP to Flush	Scale Inhib., gal
		Top, ft.	Bot., ft																	
1	WASATCH	5788	5730	4	8	Varied	Pre-Pad & Pump-in test	0.25	1	Slidewater	3,778	3,778	90		90					2
	WASATCH	5970	5974	4	16	0	ISIP and 5 min ISIP			Slidewater	9,040	125	215	15.0%	0.0%	0			3	
	WASATCH					50	Slidewater Pad			Slidewater	17,537	418	633	50.0%	37.3%	10,961	10,961	9		
	WASATCH					50	Slidewater Ramp			Slidewater	12,276	38,852	292	925	35.0%	62.7%	18,414	29,374	6	
	WASATCH					50	Flush (4-1/2)			Slidewater	3,778	42,631	90	1,015			29,374	2		
	WASATCH					50	ISDP and 5 min ISDP	Slidewater									0			
	WASATCH																0			
	WASATCH																0			
	WASATCH																	0		
	WASATCH																		23	
2	WASATCH	5908	5510	4	24	20.3	<< Above pump time (min)	0.25	1	Sand laden	35,074					gal/m/d-ft	19,000	15,913	lbs sand/m-d-ft	
	WASATCH	5963	5567	4	8	Varied	Pump-in test			Slidewater	0	0	0				CBP depth	5,597	191	
	WASATCH					50	ISIP and 5 min ISIP			Slidewater	3,230	77	77	15.0%	0.0%	0			2	
	WASATCH					50	Slidewater Pad			Slidewater	10,767	13,997	256	333	50.0%	37.3%	6,729	6,729	5	
	WASATCH					50	Slidewater Ramp			Slidewater	7,537	21,534	179	513	35.0%	62.7%	11,305	18,035	4	
	WASATCH					50	Flush (4-1/2)	Slidewater	3,596	25,130	86	598					18,035	2		
	WASATCH					50	ISDP and 5 min ISDP	Slidewater									0			
	WASATCH																0			
	WASATCH																	0		
	WASATCH																		14	
3	WASATCH	5280	5281	4	24	12.0	<< Above pump time (min)	0.25	1	Slidewater	0	0	0			gal/m/d-ft	74,000	61,975	lbs sand/m-d-ft	
	WASATCH	5289	5300	4	4	Varied	Pump-in test			Slidewater	3,233	77	77	15.0%	0.0%	0			2	
	WASATCH	5308	5309	4	4	0	ISIP and 5 min ISIP			Slidewater	14,010	257	334	50.0%	37.3%	6,735	6,735	5		
	WASATCH	5409	5412	4	12	50	Slidewater Ramp			Slidewater	10,777	21,553	180	513	35.0%	62.7%	11,315	18,051	4	
	WASATCH					50	Flush (4-1/2)			Slidewater	3,447	25,000	82	595			18,051	18,051	0	
	WASATCH					50	ISDP and 5 min ISDP	Slidewater									0			
	WASATCH																0			
	WASATCH																	0		
	WASATCH																		11	
	Totals		Total ft				11.9	<< Above pump time (min)				Total Fluid	92,760 2,209 bbls				gal/m/d-ft	28,699 CBP depth	24,036 5,230	lbs sand/m-d-ft 50
					72												Total Sand	65,460		Total Scale Inhib. = 48



Name Bonanza 1023-2G2CS  
 Perforation and CBP Summary

Stage	Zones	Perforations		SPF	Holes		Fracture Coverage		
		Top, ft	Bottom, ft						
1	WASATCH	5788	5790	4	8		5786.5	to	5794
	WASATCH	5970	5974	4	16		5944	to	5977
	WASATCH								
	WASATCH								
	WASATCH								
	WASATCH								
	WASATCH								
	# of Perfs/stage				24		CBP DEPTH	5,597	
2	WASATCH	5508	5510	4	8		5507	to	5511.5
	WASATCH	5563	5567	4	16		5562	to	5569.5
	WASATCH								
	WASATCH								
	WASATCH								
	WASATCH								
	WASATCH								
	# of Perfs/stage				24		CBP DEPTH	5,442	
3	WASATCH	5280	5281	4	4		5278	to	5283.5
	WASATCH	5299	5300	4	4		5296.5	to	5303
	WASATCH	5308	5309	4	4		5304	to	5310.5
	WASATCH	5409	5412	4	12		5405.5	to	5421.5
	WASATCH								
	WASATCH								
	WASATCH								
	WASATCH								
	# of Perfs/stage				24		CBP DEPTH	5,230	
	Totals	Total			72				Total



**Bonanza 1023-2G2CS**

MD	TVD	EW	NS	INC	AZI
0.00	0.00	0.00	0.00	0.00	0.00
153.00	153.00	-0.61	-0.33	0.52	241.85
243.00	242.99	-1.42	-0.69	0.61	249.23
333.00	332.98	-2.78	-1.41	1.36	238.84
423.00	422.94	-4.78	-2.97	1.88	227.25
513.00	512.90	-6.95	-4.90	1.82	229.58
603.00	602.85	-9.19	-6.96	2.06	225.51
693.00	692.79	-11.52	-9.18	2.04	226.97
783.00	782.73	-13.77	-11.43	2.01	223.06
873.00	872.68	-15.59	-13.74	1.75	212.96
963.00	962.64	-16.93	-15.99	1.59	208.08
1053.00	1052.61	-18.41	-18.20	1.82	218.94
1143.00	1142.56	-20.29	-20.44	1.90	220.94
1233.00	1232.51	-22.26	-22.65	1.87	222.70
1323.00	1322.46	-24.33	-24.93	2.05	221.87
1413.00	1412.40	-26.37	-27.26	1.89	220.30
1503.00	1502.36	-28.16	-29.39	1.65	219.76
1593.00	1592.32	-30.07	-31.35	1.85	228.35
1683.00	1682.27	-31.99	-33.60	1.95	212.97
1803.00	1802.20	-34.00	-37.25	2.04	204.97
1923.00	1922.09	-35.77	-41.86	2.69	197.92
1963.00	1962.05	-36.30	-43.62	2.56	195.43
2008.00	2006.99	-37.14	-45.78	3.38	205.81
2053.00	2051.88	-38.62	-48.61	4.76	209.03
2099.00	2097.65	-41.02	-52.46	6.56	213.93
2144.00	2142.27	-44.31	-57.23	8.25	215.18
2189.00	2186.73	-48.28	-62.93	9.50	214.56
2235.00	2232.04	-52.70	-69.57	10.50	212.81
2280.00	2276.22	-57.31	-76.77	11.38	212.43
2326.00	2321.21	-62.56	-84.76	12.63	214.06
2371.00	2365.02	-68.24	-93.32	13.75	213.18
2416.00	2408.64	-74.28	-102.60	14.75	212.93
2462.00	2453.02	-80.96	-112.66	15.69	214.18
2507.00	2496.23	-88.26	-122.91	16.81	216.68
2552.00	2539.12	-96.50	-133.74	18.38	217.81
2598.00	2582.69	-105.41	-145.51	19.06	216.43
2643.00	2625.10	-114.25	-157.66	19.94	215.68
2688.00	2667.30	-123.24	-170.46	20.75	214.56
2734.00	2710.11	-132.56	-184.45	22.13	212.81
2779.00	2751.48	-141.87	-199.52	24.25	210.68
2870.00	2834.24	-162.09	-231.48	24.88	213.93
2960.00	2915.79	-183.97	-262.65	25.19	216.18
3051.00	2997.81	-207.30	-294.40	26.13	216.43
3142.00	3080.14	-229.66	-326.07	24.31	213.93
3233.00	3163.23	-250.70	-356.63	23.81	215.18
3323.00	3245.39	-271.51	-386.89	24.37	213.87
3414.00	3328.59	-291.61	-417.80	23.44	212.18
3504.00	3411.51	-310.41	-447.31	22.31	212.81
3595.00	3496.54	-327.81	-474.61	19.38	212.18
3686.00	3583.36	-341.67	-498.03	15.44	208.68

3776.00	3670.42	-352.99	-517.84	13.94	210.93
3867.00	3758.97	-363.33	-536.06	12.69	208.06
3957.00	3846.81	-373.33	-552.93	12.50	213.31
4048.00	3935.89	-383.26	-568.62	11.06	211.20
4138.00	4024.41	-392.12	-582.24	9.75	215.18
4229.00	4114.24	-400.98	-593.74	8.63	220.31
4320.00	4204.32	-409.20	-603.70	7.69	218.68
4410.00	4293.63	-416.34	-612.16	6.44	221.93
4501.00	4384.18	-422.80	-618.48	5.00	230.43
4592.00	4474.93	-428.13	-622.61	3.50	234.81
4682.00	4564.80	-432.04	-625.14	2.44	240.18
4773.00	4655.73	-434.95	-627.27	2.13	226.81
4863.00	4745.67	-437.11	-629.73	2.06	215.31
4954.00	4836.64	-438.98	-630.87	1.19	282.06
5045.00	4927.63	-440.65	-630.67	0.94	270.18
5135.00	5017.62	-441.57	-630.11	0.75	341.43
5226.00	5108.58	-442.17	-627.80	2.25	346.68
5317.00	5199.53	-443.09	-624.72	1.81	339.43
5408.00	5290.50	-443.98	-622.69	0.99	330.97
5498.00	5380.49	-444.60	-621.58	0.63	329.81
5589.00	5471.49	-444.98	-620.94	0.31	328.06
5680.00	5562.49	-445.29	-620.64	0.25	295.31
5770.00	5652.48	-445.15	-619.58	1.31	18.43
5861.00	5743.46	-444.51	-617.97	0.88	25.93
5952.00	5834.45	-444.06	-616.76	0.75	14.43
6042.00	5924.45	-443.85	-615.76	0.56	8.43
6133.00	6015.44	-443.55	-614.99	0.50	35.43
6223.00	6105.44	-443.13	-614.63	0.25	75.56
6314.00	6196.44	-442.96	-614.77	0.25	184.51
6405.00	6287.44	-442.84	-615.35	0.50	160.56
6496.00	6378.43	-442.43	-616.36	0.88	156.18
6586.00	6468.42	-441.76	-617.84	1.19	155.43
6677.00	6559.39	-441.05	-619.69	1.31	162.43
6767.00	6649.37	-440.22	-621.78	1.56	154.93
6858.00	6740.35	-439.30	-623.28	0.69	132.93
6949.00	6831.35	-438.65	-623.40	0.44	43.68
7039.00	6921.34	-438.24	-622.98	0.31	47.06
7130.00	7012.34	-437.92	-622.74	0.19	60.31
7221.00	7103.34	-437.62	-622.92	0.38	145.43
7311.00	7193.34	-437.27	-623.40	0.38	143.11
7402.00	7284.34	-436.93	-624.02	0.52	156.35
7493.00	7375.33	-436.78	-625.04	0.81	181.81
7583.00	7465.32	-436.52	-626.52	1.13	161.68
7674.00	7556.29	-435.69	-628.37	1.44	151.18
7765.00	7647.26	-434.00	-630.41	1.94	132.31
7855.00	7737.20	-431.56	-632.21	1.94	120.68
7946.00	7828.15	-428.85	-633.67	1.94	115.81
8037.00	7919.11	-426.14	-634.77	1.75	107.93
8127.00	8009.06	-423.35	-635.71	2.00	109.18
8210.00	8092.01	-420.62	-636.74	2.03	112.06
8260.00	8141.97	-418.98	-637.40	2.03	112.06



Acid Pickling and H2S Procedures (If Required)

**\*\*PROCEDURE FOR PUMPING ACID DOWN TBG**

WHEN FINDING SCALE IN TUBING THAT IS ACID SOLUBLE, ENSURE THAT PLUNGER EQUIPMENT IS REMOVED AND ABLE TO PUMP DOWN TBG. INSTALL A 'T' IN PUMP LINE W/2" VALVE THAT NALCO CAN TIE INTO. HAVE 60 BBL 2% KCL MIXED W/ 10-15 GAL H2S SCAVENGER IN RIG FLAT TANK. (WE USED THE RIG FLAT TANK FOR MIXING CHEMICAL SO WE DIDN'T HAVE THE CHEMICAL IN ALL FLUIDS ON LOCATION, ONLY WHAT WE NEEDED TO PUMP DOWN HOLE)

1. PUMP 5-10 BBL 2% KCL DOWN TBG (NALCO CANNOT PUMP AGAINST PRESSURE)
2. NALCO WILL PUMP 3 DRUMS HCL (31%) INTO PUMP LINE.
3. FLUSH BEHIND ACID WITH 10-15 BBL 2% KCL
4. PUMP 2—30 BBL 2% W/ H2S SCAVENGER DOWN TBG.
5. PUMP REMAINDER OF 2% W/ H2S SCAVENGER DOWN CASING AND SHUT WELL IN FOR MINIMUM OF 2 HRS.
6. OVER DISPLACE DOWN TBG AND CSG TO FLUSH ACID AND SCAVENGER INTO FORMATION
7. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

**\*\* PROCEDURE FOR PUMPING H2S SCAVENGER WITHOUT ACID**

PRIOR TO RIG MOVING ON OR AS RIG PULLS ONTO LOCATION. TEST CASING, TUBING AND SEPARATOR FOR H2S. IF FOUND MAKE SURE THAT PLUNGER SYSTEM IS REMOVED (IT IS POSSIBLE TO PUMP AROUND PLUNGERS BUT SOME WILL HAVE A STANDING VALVE IN SEATING NIPPLE).

1. MIX 10-15 GAL H2S SCAVENGER WITH 60-100 BBL 2% KCL IN RIG FLAT TANK.
2. PUMP 25 BBL MIXTURE DOWN TUBING AND REST DOWN CASING. SHUT WELL IN FOR 2 HOURS.
3. IF WELL HAS PRESSURE AFTER 2 HOURS – RETEST CASING AND TUBING FOR H2S.
4. FLUSH TUBING AND CASING PUSHING H2S SCAVENGER INTO FORMATION.
5. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

**\*\* As per APC standard operating procedure, APC foreman will verify ALL volumes pumped and record on APC Volume Report Form**



Key Contact information

Completion Engineer

Patricia Cuba: 303/601-7259, 720/929-6348

Production Engineer

Ben Smiley: 435/781-7010, 936/524-4231

Blair Corbett: 435/322-0119, 435/781-9714

Completion Supervisor Foreman

Jeff Samuels: 435-828-6515, 435-781-7046

Completion Manager

Jeff Dufresne: 720-929-6281, 303-241-8428

Vernal Main Office

435-789-3342

Emergency Contact Information—Call 911

Vernal Regional Hospital Emergency: 435-789-3342

Police: (435) 789-5835

Fire: 435-789-4222



**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: P.O. Box 173779  
city DENVER  
state CO zip 80217 Phone Number: (720) 929-6029

**Well 1**

API Number	Well Name	QQ	Sec	Twp	Rng	County
See Atchmt	See Atchmt					
<b>Action Code</b>	<b>Current Entity Number</b>	<b>New Entity Number</b>		<b>Spud Date</b>		<b>Entity Assignment Effective Date</b>
	99999	18519				5/11/2012
<b>Comments:</b> Please see attachment with list of Wells in the Ponderosa Unit. <u>W5MVD</u> <span style="float: right;">5/30/2012</span>						

**Well 2**

API Number	Well Name	QQ	Sec	Twp	Rng	County
<b>Action Code</b>	<b>Current Entity Number</b>	<b>New Entity Number</b>		<b>Spud Date</b>		<b>Entity Assignment Effective Date</b>
<b>Comments:</b>						

**Well 3**

API Number	Well Name	QQ	Sec	Twp	Rng	County
<b>Action Code</b>	<b>Current Entity Number</b>	<b>New Entity Number</b>		<b>Spud Date</b>		<b>Entity Assignment Effective Date</b>
<b>Comments:</b>						

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

Cara Mahler

Name (Please Print)

Signature

REGULATORY ANALYST

Title

5/21/2012

Date

**RECEIVED**

**MAY 21 2012**

(5/2000)

Div. of Oil, Gas & Mining



well_name	sec	tpw	rng	api	entity		lease	well	stat	qtr_qtr	bhl	surf	zone	a_stat	l_num	op_no
SOUTHMAN CANYON 31-3	31	090S	230E	4304734726	13717		1	GW	P	SENW		1	WSMVD	P	U-33433	N2995
SOUTHMAN CANYON 31-4	31	090S	230E	4304734727	13742		1	GW	S	SESW		1	WSMVD	S	UTU-33433	N2995
SOUTHMAN CYN 31-2X (RIG SKID)	31	090S	230E	4304734898	13755		1	GW	P	NWNW		1	WSMVD	P	U-33433	N2995
SOUTHMAN CYN 923-31J	31	090S	230E	4304735149	13994		1	GW	P	NWSE		1	MVRD	P	U-33433	N2995
SOUTHMAN CYN 923-31B	31	090S	230E	4304735150	13953		1	GW	P	NWNE		1	MVRD	P	U-33433	N2995
SOUTHMAN CYN 923-31P	31	090S	230E	4304735288	14037		1	GW	P	SESE		1	WSMVD	P	UTU-33433	N2995
SOUTHMAN CYN 923-31H	31	090S	230E	4304735336	14157		1	GW	P	SENE		1	WSMVD	P	U-33433	N2995
SOUTHMAN CYN 923-31O	31	090S	230E	4304737205	16827		1	GW	P	SWSE		1	MVRD	P	UTU-33433	N2995
SOUTHMAN CYN 923-31K	31	090S	230E	4304737206	16503		1	GW	P	NESW		1	WSMVD	P	UTU-33433	N2995
SOUTHMAN CYN 923-31G	31	090S	230E	4304737208	16313		1	GW	P	SWNE		1	WSMVD	P	UTU-33433	N2995
SOUTHMAN CYN 923-31E	31	090S	230E	4304737209	16521		1	GW	P	SWNW		1	WSMVD	P	UTU-33433	N2995
SOUTHMAN CYN 923-31A	31	090S	230E	4304737210	16472		1	GW	P	NENE		1	WSMVD	P	UTU-33433	N2995
SOUTHMAN CYN 923-31C	31	090S	230E	4304737227	16522		1	GW	P	NENW		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-1G	01	100S	230E	4304735512	14458		1	GW	P	SWNE		1	WSMVD	P	U-40736	N2995
BONANZA 1023-1A	01	100S	230E	4304735717	14526		1	GW	P	NENE		1	WSMVD	P	U-40736	N2995
BONANZA 1023-1E	01	100S	230E	4304735745	14524		1	GW	P	SWNW		1	WSMVD	P	U-40736	N2995
BONANZA 1023-1C	01	100S	230E	4304735754	14684		1	GW	P	NENW		1	MVRD	P	U-40736	N2995
BONANZA 1023-1K	01	100S	230E	4304735755	15403		1	GW	P	NESW		1	MVRD	P	U-38423	N2995
BONANZA 1023-1F	01	100S	230E	4304737379	16872		1	GW	P	SENW		1	MVRD	P	UTU-40736	N2995
BONANZA 1023-1B	01	100S	230E	4304737380	16733		1	GW	P	NWNE		1	MVRD	P	UTU-40736	N2995
BONANZA 1023-1D	01	100S	230E	4304737381	16873		1	GW	P	NWNW		1	MVRD	P	UTU-40736	N2995
BONANZA 1023-1H	01	100S	230E	4304737430	16901		1	GW	P	SENE		1	MVRD	P	UTU-40736	N2995
BONANZA 1023-1L	01	100S	230E	4304738300	16735		1	GW	P	NWSW		1	MVRD	P	UTU-38423	N2995
BONANZA 1023-1J	01	100S	230E	4304738302	16871		1	GW	P	NWSE		1	MVRD	P	UTU-40736	N2995
BONANZA 1023-1I	01	100S	230E	4304738810	16750		1	GW	P	NESE		1	MVRD	P	UTU-40736	N2995
BONANZA 1023-2E	02	100S	230E	4304735345	14085		3	GW	P	SWNW		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2C	02	100S	230E	4304735346	14084		3	GW	P	NENW		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2A	02	100S	230E	4304735347	14068		3	GW	P	NENE		3	MVRD	P	ML-47062	N2995
BONANZA 1023-2G	02	100S	230E	4304735661	14291		3	GW	P	SWNE		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2O	02	100S	230E	4304735662	14289		3	GW	P	SWSE		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2I	02	100S	230E	4304735663	14290		3	GW	S	NESE		3	WSMVD	S	ML-47062	N2995
BONANZA 1023-2MX	02	100S	230E	4304736092	14730		3	GW	P	SWSW		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2H	02	100S	230E	4304737093	16004		3	GW	P	SENE		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2D	02	100S	230E	4304737094	15460		3	GW	P	NWNW		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2B	02	100S	230E	4304737095	15783		3	GW	P	NWNE		3	MVRD	P	ML-47062	N2995
BONANZA 1023-2P	02	100S	230E	4304737223	15970		3	GW	P	SESE		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2N	02	100S	230E	4304737224	15887		3	GW	P	SESW		3	MVRD	P	ML-47062	N2995
BONANZA 1023-2L	02	100S	230E	4304737225	15833		3	GW	P	NWSW		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2F	02	100S	230E	4304737226	15386		3	GW	P	SENW		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2D-4	02	100S	230E	4304738761	16033		3	GW	P	NWNW		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2O-1	02	100S	230E	4304738762	16013		3	GW	P	SWSE		3	WSMVD	P	ML-47062	N2995
BONANZA 1023-2H3CS	02	100S	230E	4304750344	17426		3	GW	P	NWNE	D	3	MVRD	P	ML 47062	N2995
BONANZA 1023-2G3BS	02	100S	230E	4304750345	17428		3	GW	P	NWNE	D	3	MVRD	P	ML 47062	N2995
BONANZA 1023-2G2CS	02	100S	230E	4304750346	17429		3	GW	P	NWNE	D	3	MVRD	P	ML 47062	N2995
BONANZA 1023-2G1BS	02	100S	230E	4304750347	17427		3	GW	P	NWNE	D	3	MVRD	P	ML 47062	N2995



BONANZA 1023-2M1S	02	100S	230E	4304750379	17443		3	GW	P	SENW	D	3	MVRD	P	ML 47062	N2995
BONANZA 1023-2L2S	02	100S	230E	4304750380	17444		3	GW	P	SENW	D	3	MVRD	P	ML 47062	N2995
BONANZA 1023-2K4S	02	100S	230E	4304750381	17446		3	GW	P	SENW	D	3	MVRD	P	ML 47062	N2995
BONANZA 1023-2K1S	02	100S	230E	4304750382	17445		3	GW	P	SENW	D	3	WSMVD	P	ML 47062	N2995
BONANZA 4-6 ✱	04	100S	230E	4304734751	13841		1	GW	P	NESW		1	MNCS	P	UTU-33433	N2995
BONANZA 1023-4A	04	100S	230E	4304735360	14261		1	GW	P	NENE		1	WSMVD	P	U-33433	N2995
BONANZA 1023-4E	04	100S	230E	4304735392	14155		1	GW	P	SWNW		1	WSMVD	P	U-33433	N2995
BONANZA 1023-4C	04	100S	230E	4304735437	14252		1	GW	P	NENW		1	WSMVD	P	U-33433	N2995
BONANZA 1023-4M	04	100S	230E	4304735629	14930		1	GW	P	SWSW		1	WSMVD	P	U-33433	N2995
BONANZA 1023-4O	04	100S	230E	4304735688	15111		1	GW	P	SWSE		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-4I	04	100S	230E	4304735689	14446		1	GW	P	NESE		1	MVRD	P	UTU-33433	N2995
BONANZA 1023-4G	04	100S	230E	4304735746	14445		1	GW	P	SWNE		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-4D	04	100S	230E	4304737315	16352		1	GW	P	NWNW		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-4H	04	100S	230E	4304737317	16318		1	GW	P	SENE		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-4B	04	100S	230E	4304737328	16351		1	GW	P	NWNE		1	MVRD	P	UTU-33433	N2995
BONANZA 1023-4L	04	100S	230E	4304738211	16393		1	GW	P	NWSW		1	MVRD	P	UTU-33433	N2995
BONANZA 1023-4P	04	100S	230E	4304738212	16442		1	GW	P	SESE		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-4N	04	100S	230E	4304738303	16395		1	GW	P	SESW		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-4FX (RIGSKID)	04	100S	230E	4304739918	16356		1	GW	P	SENW		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-5O	05	100S	230E	4304735438	14297		1	GW	P	SWSE		1	WSMVD	P	U-33433	N2995
BONANZA 1023-5AX (RIGSKID)	05	100S	230E	4304735809	14243		1	GW	P	NENE		1	WSMVD	P	U-33433	N2995
BONANZA 1023-5C	05	100S	230E	4304736176	14729		1	GW	P	NENW		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-5G	05	100S	230E	4304736177	14700		1	GW	P	SWNE		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-5M	05	100S	230E	4304736178	14699		1	GW	P	SWSW		1	WSMVD	P	UTU-73450	N2995
BONANZA 1023-5K	05	100S	230E	4304736741	15922		1	GW	P	NESW		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-5B	05	100S	230E	4304737318	16904		1	GW	P	NWNE		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-5E	05	100S	230E	4304737319	16824		1	GW	P	SWNW		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-5H	05	100S	230E	4304737320	16793		1	GW	P	SENE		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-5N	05	100S	230E	4304737321	16732		1	GW	P	SESW		1	WSMVD	P	UTU-73450	N2995
BONANZA 1023-5L	05	100S	230E	4304737322	16825		1	GW	P	NWSW		1	MVRD	P	UTU-33433	N2995
BONANZA 1023-5J	05	100S	230E	4304737428	17055		1	GW	P	NWSE		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-5P	05	100S	230E	4304738213	16795		1	GW	P	SESE		1	MVRD	P	UTU-33433	N2995
BONANZA 1023-5N-1	05	100S	230E	4304738911	17060		1	GW	P	SESW		1	WSMVD	P	UTU-73450	N2995
BONANZA 1023-5PS	05	100S	230E	4304750169	17323		1	GW	P	NESE	D	1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-5G2AS	05	100S	230E	4304750486	17459		1	GW	P	SWNE	D	1	MVRD	P	UTU 33433	N2995
BONANZA 1023-5G2CS	05	100S	230E	4304750487	17462		1	GW	P	SWNE	D	1	MVRD	P	UTU 33433	N2995
BONANZA 1023-5G3BS	05	100S	230E	4304750488	17461		1	GW	P	SWNE	D	1	MVRD	P	UTU 33433	N2995
BONANZA 1023-5G3CS	05	100S	230E	4304750489	17460		1	GW	P	SWNE	D	1	MVRD	P	UTU 33433	N2995
BONANZA 1023-5N4AS	05	100S	230E	4304752080	18484		1	GW	DRL	SWSW	D	1	WSMVD	DRL	UTU73450	N2995
BONANZA 1023-8C2DS	05	100S	230E	4304752081	18507		1	GW	DRL	SWSW	D	1	WSMVD	DRL	UTU37355	N2995
BONANZA 6-2	06	100S	230E	4304734843	13796		1	GW	TA	NESW		1	WSMVD	TA	UTU-38419	N2995
BONANZA 1023-6C	06	100S	230E	4304735153	13951		1	GW	P	NENW		1	MVRD	P	U-38419	N2995
BONANZA 1023-6E	06	100S	230E	4304735358	14170		1	GW	P	SWNW		1	MVRD	P	U-38419	N2995
BONANZA 1023-6M	06	100S	230E	4304735359	14233		1	GW	P	SWSW		1	WSMVD	P	U-38419	N2995
BONANZA 1023-6G	06	100S	230E	4304735439	14221		1	GW	P	SWNE		1	WSMVD	P	UTU-38419	N2995
BONANZA 1023-6O	06	100S	230E	4304735630	14425		1	GW	TA	SWSE		1	WSMVD	TA	U-38419	N2995

✱ not moved in unit



BONANZA 1023-6A	06	100S	230E	4304736067	14775		1	GW	P	NENE		1	WSMVD	P	U-33433	N2995
BONANZA 1023-6N	06	100S	230E	4304737211	15672		1	GW	P	SESW		1	WSMVD	P	UTU-38419	N2995
BONANZA 1023-6L	06	100S	230E	4304737212	15673		1	GW	P	NWSW		1	WSMVD	P	UTU-38419	N2995
BONANZA 1023-6J	06	100S	230E	4304737213	15620		1	GW	P	NWSE		1	WSMVD	P	UTU-38419	N2995
BONANZA 1023-6F	06	100S	230E	4304737214	15576		1	GW	TA	SENW		1	WSMVD	TA	UTU-38419	N2995
BONANZA 1023-6P	06	100S	230E	4304737323	16794		1	GW	P	SESE		1	WSMVD	P	UTU-38419	N2995
BONANZA 1023-6H	06	100S	230E	4304737324	16798		1	GW	S	SENE		1	WSMVD	S	UTU-33433	N2995
BONANZA 1023-6D	06	100S	230E	4304737429	17020		1	GW	P	NWNW		1	WSMVD	P	UTU-38419	N2995
BONANZA 1023-6B	06	100S	230E	4304740398	18291		1	GW	P	NWNE		1	WSMVD	P	UTU-33433	N2995
BONANZA 1023-6M1BS	06	100S	230E	4304750452	17578		1	GW	P	NWSW	D	1	WSMVD	P	UTU 38419	N2995
BONANZA 1023-6N1AS	06	100S	230E	4304750453	17581		1	GW	P	NWSW	D	1	WSMVD	P	UTU 38419	N2995
BONANZA 1023-6N1CS	06	100S	230E	4304750454	17580		1	GW	P	NWSW	D	1	WSMVD	P	UTU 38419	N2995
BONANZA 1023-6N4BS	06	100S	230E	4304750455	17579		1	GW	P	NWSW	D	1	WSMVD	P	UTU 38419	N2995
BONANZA 1023-6I2S	06	100S	230E	4304750457	17790		1	GW	P	NESE	D	1	WSMVD	P	UTU 38419	N2995
BONANZA 1023-6I4S	06	100S	230E	4304750458	17792		1	GW	P	NESE	D	1	WSMVD	P	UTU 38419	N2995
BONANZA 1023-6J3S	06	100S	230E	4304750459	17791		1	GW	P	NESE	D	1	WSMVD	P	UTU 38419	N2995
BONANZA 1023-6P1S	06	100S	230E	4304750460	17793		1	GW	P	NESE	D	1	WSMVD	P	UTU 38419	N2995
BONANZA 1023-6A2CS	06	100S	230E	4304751430	18292		1	GW	P	NWNE	D	1	WSMVD	P	UTU33433	N2995
BONANZA 1023-6B4BS	06	100S	230E	4304751431	18293		1	GW	P	NWNE	D	1	WSMVD	P	UTU33433	N2995
BONANZA 1023-6B4CS	06	100S	230E	4304751432	18294		1	GW	P	NWNE	D	1	WSMVD	P	UTU33433	N2995
BONANZA 1023-6C4BS	06	100S	230E	4304751449	18318		1	GW	P	NENW	D	1	WSMVD	P	UTU38419	N2995
BONANZA 1023-6D1DS	06	100S	230E	4304751451	18316		1	GW	P	NENW	D	1	WSMVD	P	UTU38419	N2995
FLAT MESA FEDERAL 2-7	07	100S	230E	4304730545	18244		1	GW	S	NENW		1	WSMVD	S	U-38420	N2995
BONANZA 1023-7B	07	100S	230E	4304735172	13943		1	GW	P	NWNE		1	MVRD	P	U-38420	N2995
BONANZA 1023-7L	07	100S	230E	4304735289	14054		1	GW	P	NWSW		1	WSMVD	P	U-38420	N2995
BONANZA 1023-7D	07	100S	230E	4304735393	14171		1	GW	P	NWNW		1	WSMVD	P	U-38420	N2995
BONANZA 1023-7P	07	100S	230E	4304735510	14296		1	GW	P	SESE		1	WSMVD	P	U-38420	N2995
BONANZA 1023-7H	07	100S	230E	4304736742	15921		1	GW	P	SENE		1	WSMVD	P	UTU-38420	N2995
BONANZA 1023-7NX (RIGSKID)	07	100S	230E	4304736932	15923		1	GW	P	SESW		1	WSMVD	P	UTU-38420	N2995
BONANZA 1023-7M	07	100S	230E	4304737215	16715		1	GW	P	SWSW		1	WSMVD	P	UTU-38420	N2995
BONANZA 1023-7K	07	100S	230E	4304737216	16714		1	GW	P	NESW		1	WSMVD	P	UTU-38420	N2995
BONANZA 1023-7E	07	100S	230E	4304737217	16870		1	GW	P	SWNW		1	WSMVD	P	UTU-38420	N2995
BONANZA 1023-7G	07	100S	230E	4304737326	16765		1	GW	P	SWNE		1	WSMVD	P	UTU-38420	N2995
BONANZA 1023-7A	07	100S	230E	4304737327	16796		1	GW	P	NENE		1	WSMVD	P	UTU-38420	N2995
BONANZA 1023-7O	07	100S	230E	4304738304	16713		1	GW	P	SWSE		1	MVRD	P	UTU-38420	N2995
BONANZA 1023-7B-3	07	100S	230E	4304738912	17016		1	GW	P	NWNE		1	WSMVD	P	UTU-38420	N2995
BONANZA 1023-07JT	07	100S	230E	4304739390	16869		1	GW	P	NWSE		1	WSMVD	P	UTU-38420	N2995
BONANZA 1023-7J2AS	07	100S	230E	4304750474	17494		1	GW	P	NWSE	D	1	WSMVD	P	UTU 38420	N2995
BONANZA 1023-7J2DS	07	100S	230E	4304750475	17495		1	GW	P	NWSE	D	1	WSMVD	P	UTU 38420	N2995
BONANZA 1023-7L3DS	07	100S	230E	4304750476	17939		1	GW	P	NWSW	D	1	WSMVD	P	UTU 38420	N2995
BONANZA 1023-7M2AS	07	100S	230E	4304750477	17942		1	GW	P	NWSW	D	1	WSMVD	P	UTU 38420	N2995
BONANZA 1023-7N2AS	07	100S	230E	4304750478	17940		1	GW	P	NWSW	D	1	WSMVD	P	UTU 38420	N2995
BONANZA 1023-7N2DS	07	100S	230E	4304750479	17941		1	GW	P	NWSW	D	1	WSMVD	P	UTU 38420	N2995
BONANZA 1023-7O4S	07	100S	230E	4304750480	17918		1	GW	P	SESE	D	1	WSMVD	P	UTU 38420	N2995
BONANZA 1023-7P2S	07	100S	230E	4304750482	17919		1	GW	P	SESE	D	1	WSMVD	P	UTU 38420	N2995
BONANZA 8-2	08	100S	230E	4304734087	13851		1	GW	P	SESE		1	MVRD	P	U-37355	N2995



BONANZA 8-3	08	100S	230E	4304734770	13843		1	GW	P	NWNW		1	MVRD	P	U-37355	N2995
BONANZA 1023-8A	08	100S	230E	4304735718	14932		1	GW	P	NENE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8L	08	100S	230E	4304735719	14876		1	GW	P	NWSW		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8N	08	100S	230E	4304735720	15104		1	GW	P	SESW		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8F	08	100S	230E	4304735989	14877		1	GW	S	SENW		1	WSMVD	S	UTU-37355	N2995
BONANZA 1023-8I	08	100S	230E	4304738215	16358		1	GW	P	NESE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8K	08	100S	230E	4304738216	16354		1	GW	P	NESW		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8M	08	100S	230E	4304738217	16564		1	GW	P	SWSW		1	MVRD	P	UTU-37355	N2995
BONANZA 1023-8G	08	100S	230E	4304738218	16903		1	GW	P	SWNE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8E	08	100S	230E	4304738219	16397		1	GW	P	SWNW		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8C	08	100S	230E	4304738220	16355		1	GW	P	NENW		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8B	08	100S	230E	4304738221	16292		1	GW	P	NWNE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8H	08	100S	230E	4304738222	16353		1	GW	P	SENE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8O	08	100S	230E	4304738305	16392		1	GW	P	SWSE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8B-4	08	100S	230E	4304738914	17019		1	GW	P	NWNE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-8A1DS	08	100S	230E	4304750481	17518		1	GW	P	NENE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8A4BS	08	100S	230E	4304750483	17519		1	GW	P	NENE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8B1AS	08	100S	230E	4304750484	17520		1	GW	P	NENE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8B2AS	08	100S	230E	4304750485	17521		1	GW	P	NENE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8O2S	08	100S	230E	4304750495	17511		1	GW	P	NWSE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8J1S	08	100S	230E	4304750496	17509		1	GW	P	NWSE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8O3S	08	100S	230E	4304750497	17512		1	GW	P	NWSE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8J3	08	100S	230E	4304750498	17510		1	GW	P	NWSE		1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8C4CS	08	100S	230E	4304750499	17544		1	GW	P	NENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8D2DS	08	100S	230E	4304750500	17546		1	GW	P	NENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8D3DS	08	100S	230E	4304750501	17545		1	GW	P	NENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8F3DS	08	100S	230E	4304750502	17543		1	GW	P	NENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8A4CS	08	100S	230E	4304751131	18169		1	GW	P	NWNE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8B3BS	08	100S	230E	4304751132	18167		1	GW	P	NWNE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8C1AS	08	100S	230E	4304751133	18166		1	GW	P	NWNE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8G3AS	08	100S	230E	4304751134	18168		1	GW	P	NWNE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8E2AS	08	100S	230E	4304751135	18227		1	GW	P	SENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8F3BS	08	100S	230E	4304751136	18227		1	GW	P	SENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8F4AS	08	100S	230E	4304751137	18224		1	GW	P	SENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8F4DS	08	100S	230E	4304751138	18225		1	GW	P	SENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8J2CS	08	100S	230E	4304751139	18226		1	GW	P	SENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8G4DS	08	100S	230E	4304751140	18144		1	GW	P	NESE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8H2DS	08	100S	230E	4304751141	18142		1	GW	P	NESE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8H3DS	08	100S	230E	4304751142	18143		1	GW	P	NESE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8H4DS	08	100S	230E	4304751143	18141		1	GW	P	NESE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8I4BS	08	100S	230E	4304751144	18155		1	GW	P	NESE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8J4BS	08	100S	230E	4304751145	18154		1	GW	P	NESE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8P1AS	08	100S	230E	4304751146	18156		1	GW	P	NESE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8P2BS	08	100S	230E	4304751147	18153		1	GW	P	NESE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8P4AS	08	100S	230E	4304751148	18157		1	GW	P	NESE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8E2DS	08	100S	230E	4304751149	18201		1	GW	P	NWSW	D	1	WSMVD	P	UTU 37355	N2995



BONANZA 1023-8E3DS	08	100S	230E	4304751150	18200		1	GW	P	NWSW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8K1CS	08	100S	230E	4304751151	18199		1	GW	P	NWSW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8K4CS	08	100S	230E	4304751152	18198		1	GW	P	NWSW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8L3DS	08	100S	230E	4304751153	18197		1	GW	P	NWSW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8M2AS	08	100S	230E	4304751154	18217		1	GW	P	SWSW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8M2DS	08	100S	230E	4304751155	18216		1	GW	P	SWSW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8N2BS	08	100S	230E	4304751156	18218		1	GW	P	SWSW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8O3CS	08	100S	230E	4304751157	18254		1	GW	P	SWSE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8N3DS	08	100S	230E	4304751158	18215		1	GW	P	SWSW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8O4AS	08	100S	230E	4304751159	18252		1	GW	P	SWSE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8P2CS	08	100S	230E	4304751160	18251		1	GW	P	SWSE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-8P3CS	08	100S	230E	4304751161	18253		1	GW	P	SWSE	D	1	WSMVD	P	UTU 37355	N2995
CANYON FEDERAL 2-9	09	100S	230E	4304731504	1468		1	GW	P	NENW		1	MVRD	P	U-37355	N2995
SOUTHMAN CANYON 9-3-M	09	100S	230E	4304732540	11767		1	GW	S	SWSW		1	MVRD	S	UTU-37355	N2995
SOUTHMAN CANYON 9-4-J	09	100S	230E	4304732541	11685		1	GW	S	NWSE		1	MVRD	S	UTU-37355	N2995
BONANZA 9-6	09	100S	230E	4304734771	13852		1	GW	P	NWNE		1	MVRD	P	U-37355	N2995
BONANZA 9-5	09	100S	230E	4304734866	13892		1	GW	P	SESW		1	MVRD	P	U-37355	N2995
BONANZA 1023-9E	09	100S	230E	4304735620	14931		1	GW	P	SWNW		1	WSMVD	P	U-37355	N2995
BONANZA 1023-9I	09	100S	230E	4304738223	16766		1	GW	P	NESE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-9D	09	100S	230E	4304738306	16398		1	GW	P	NWNW		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-9J	09	100S	230E	4304738811	16989		1	GW	P	NWSE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-9B3BS	09	100S	230E	4304750503	17965		1	GW	P	SENE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-9B3CS	09	100S	230E	4304750504	17968		1	GW	P	SENE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-9H2BS	09	100S	230E	4304750505	17966		1	GW	P	SENE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-9H2CS	09	100S	230E	4304750506	17967		1	GW	P	SENE	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 10-2	10	100S	230E	4304734704	13782		1	GW	P	NWNW		1	MVRD	P	U-72028	N2995
BONANZA 1023-10L	10	100S	230E	4304735660	15164		1	GW	P	NWSW		1	WSMVD	P	U-38261	N2995
BONANZA 1023-10E	10	100S	230E	4304738224	16501		1	GW	P	SWNW		1	MVRD	P	UTU-72028	N2995
BONANZA 1023-10C	10	100S	230E	4304738228	16500		1	GW	P	NENW		1	MVRD	P	UTU-72028	N2995
BONANZA 1023-10C-4	10	100S	230E	4304738915	17015		1	GW	P	NENW		1	MVRD	P	UTU-72028	N2995
BONANZA 11-2 ★	11	100S	230E	4304734773	13768		1	GW	P	SWNW		1	MVMCS	P	UTU-38425	N2995
BONANZA 1023-11K	11	100S	230E	4304735631	15132		1	GW	P	NESW		1	WSMVD	P	UTU-38425	N2995
BONANZA 1023-11B	11	100S	230E	4304738230	16764		1	GW	P	NWNE		1	MVRD	P	UTU-38425	N2995
BONANZA 1023-11F	11	100S	230E	4304738232	16797		1	GW	P	SENW		1	MVRD	P	UTU-38425	N2995
BONANZA 1023-11D	11	100S	230E	4304738233	16711		1	GW	P	NWNW		1	MVRD	P	UTU-38425	N2995
BONANZA 1023-11G	11	100S	230E	4304738235	16826		1	GW	P	SWNE		1	MVRD	P	UTU-38425	N2995
BONANZA 1023-11C	11	100S	230E	4304738309	16736		1	GW	P	NENW		1	MVRD	P	UTU-38425	N2995
BONANZA 1023-11J	11	100S	230E	4304738310	16839		1	GW	P	NWSE		1	WSMVD	P	UTU-38424	N2995
BONANZA 1023-11N	11	100S	230E	4304738311	16646		1	GW	P	SESW		1	MVRD	P	UTU-38424	N2995
BONANZA 1023-11M	11	100S	230E	4304738312	16687		1	GW	P	SWSW		1	MVRD	P	UTU-38424	N2995
BONANZA 1023-11L	11	100S	230E	4304738812	16987		1	GW	P	NWSW		1	WSMVD	P	UTU-38424	N2995
NSO FEDERAL 1-12	12	100S	230E	4304730560	1480		1	GW	P	NENW		1	MVRD	P	UTU-38423	N2995
WHITE RIVER 1-14	14	100S	230E	4304730481	1500		1	GW	S	NENW		1	MVRD	S	U-38427	N2995
BONANZA 1023-14D	14	100S	230E	4304737030	16799		1	GW	P	NWNW		1	MVRD	P	UTU-38427	N2995
BONANZA 1023-14C	14	100S	230E	4304738299	16623		1	GW	P	NENW		1	MVRD	P	UTU-38427	N2995
BONANZA FEDERAL 3-15	15	100S	230E	4304731278	8406		1	GW	P	NENW		1	MVRD	P	U-38428	N2995

★ not moved into unit



BONANZA 1023-15H	15	100S	230E	4304738316	16688		1	GW	P	SENE		1	MVRD	P	UTU-38427	N2995
BONANZA 1023-15J	15	100S	230E	4304738817	16988		1	GW	P	NWSE		1	MVRD	P	UTU-38427	N2995
BONANZA 1023-15H4CS	15	100S	230E	4304750741	17492		1	GW	P	NESE	D	1	MVRD	P	UTU 38427	N2995
BONANZA 1023-15I2AS	15	100S	230E	4304750742	17493		1	GW	P	NESE	D	1	WSMVD	P	UTU 38427	N2995
BONANZA 1023-15I4BS	15	100S	230E	4304750743	17490		1	GW	P	NESE	D	1	WSMVD	P	UTU 38427	N2995
BONANZA 1023-15P1BS	15	100S	230E	4304750744	17491		1	GW	P	NESE	D	1	WSMVD	P	UTU 38427	N2995
LOOKOUT POINT STATE 1-16	16	100S	230E	4304730544	1495		3	GW	P	NESE		3	WSMVD	P	ML-22186-A	N2995
BONANZA 1023-16J	16	100S	230E	4304737092	15987		3	GW	OPS	NWSE		3	WSMVD	OPS	ML-22186-A	N2995
BONANZA 1023-17B	17	100S	230E	4304735747	15165		1	GW	P	NWNE		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-17C	17	100S	230E	4304738237	16585		1	GW	P	NENW		1	WSMVD	P	UTU-37355	N2995
BONANZA 1023-17D3S	17	100S	230E	4304750511	17943		1	GW	P	NENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-17E2S	17	100S	230E	4304750512	17944		1	GW	P	NENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-17E3AS	17	100S	230E	4304750513	17945		1	GW	P	NENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-17E3CS	17	100S	230E	4304750514	17946		1	GW	P	NENW	D	1	WSMVD	P	UTU 37355	N2995
BONANZA 1023-18G	18	100S	230E	4304735621	14410		1	GW	P	SWNE		1	WSMVD	P	U-38241	N2995
BONANZA 1023-18B	18	100S	230E	4304735721	14395		1	GW	P	NWNE		1	WSMVD	P	U-38421	N2995
BONANZA 1023-18DX (RIGSKID)	18	100S	230E	4304736218	14668		1	GW	P	NWNW		1	WSMVD	P	U-38241	N2995
BONANZA 1023-18A	18	100S	230E	4304738243	16625		1	GW	P	NENE		1	WSMVD	P	UTU-38421	N2995
BONANZA 1023-18F	18	100S	230E	4304738244	16624		1	GW	P	SENW		1	WSMVD	P	UTU-38421	N2995
BONANZA 1023-18E	18	100S	230E	4304738245	16645		1	GW	P	SWNW		1	MVRD	P	UTU-38421	N2995
BONANZA 1023-18C	18	100S	230E	4304738246	16734		1	GW	P	NENW		1	MVRD	P	UTU-38421	N2995
BONANZA 1023-18G-1	18	100S	230E	4304738916	17135		1	GW	P	SWNE		1	WSMVD	P	UTU-38421	N2995
BONANZA 1023-18D3AS	18	100S	230E	4304750448	17498		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18D3DS	18	100S	230E	4304750449	17499		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18E2DS	18	100S	230E	4304750450	17497		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18E3AS	18	100S	230E	4304750451	17496		1	GW	P	SENW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18L2S	18	100S	230E	4304750520	18111		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18L3S	18	100S	230E	4304750521	18110		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18K3AS	18	100S	230E	4304751061	18112		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18K3BS	18	100S	230E	4304751063	18113		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18M2AS	18	100S	230E	4304751064	18117		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18M2DS	18	100S	230E	4304751065	18116		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18N2AS	18	100S	230E	4304751066	18114		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-18N2DS	18	100S	230E	4304751067	18115		1	GW	P	SWNW	D	1	WSMVD	P	UTU 38421	N2995
BONANZA 1023-10F	10	100S	230E	4304738225	16565			GW	P	SENW			MVRD	P	UTU 72028	N2995
BONANZA 1023-6D1AS	6	100S	230E	4304751450	18320			GW	P	NENW	D		WSMVD	P	UTU 38419	N2995
BONANZA 1023-6C1CS	6	100S	230E	4304751448	18319			GW		NENW	D				UTU 38419	N2995
BONANZA 1023-6D3AS	6	100S	230E	4304751452	18317			GW	P	NENW	D		WSMVD	P	UTU 38419	N2995